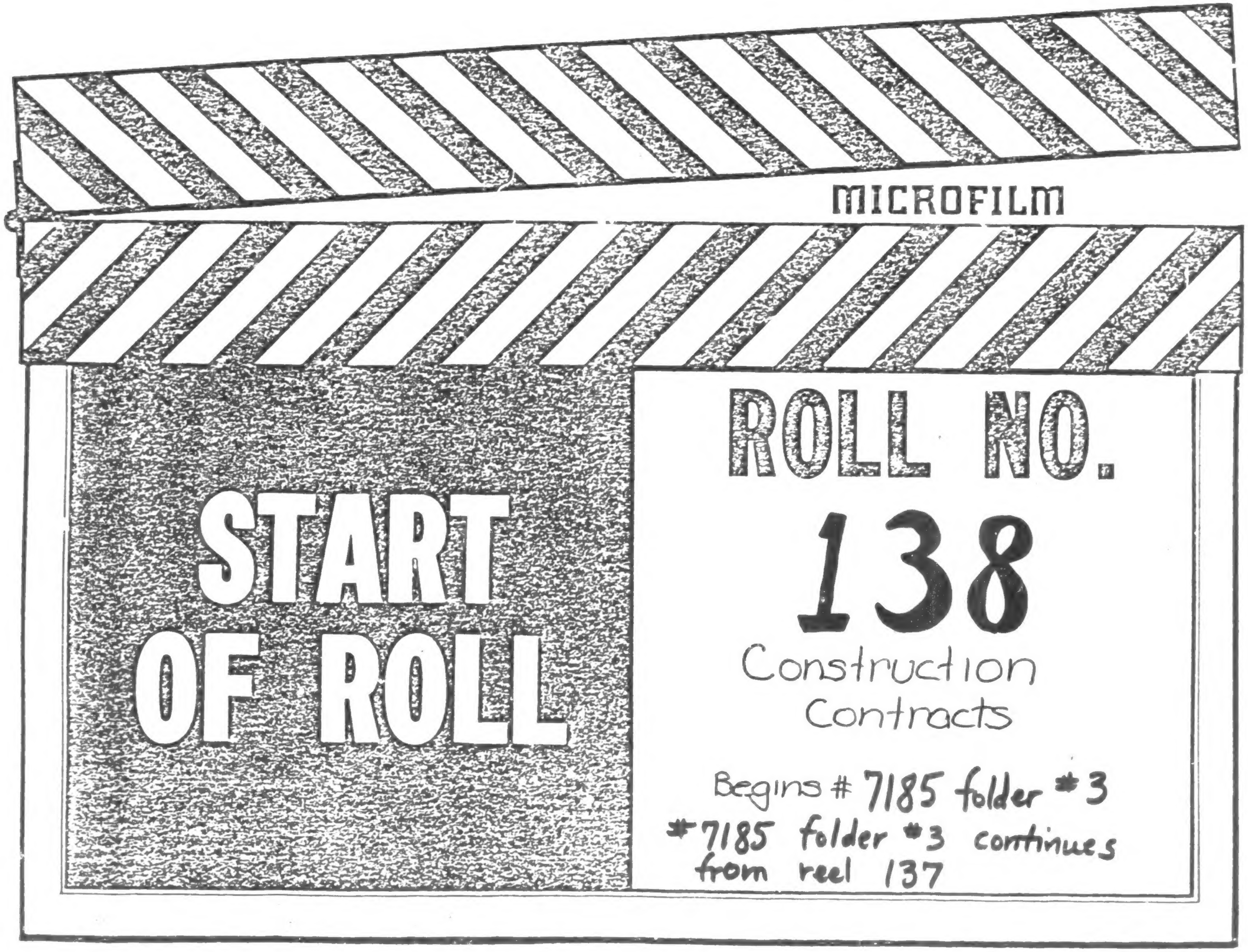

MICROFILM
START OF ROLL
ROLL NO.

138

Construction
Contracts

Begins #7185 folder #3
#7185 folder #3 continues
from reel 137

I-80N-7(25) Lime Section, Old Oregon 1969
341 Trail Hwy., SE of Baker (Grad.,
#7185 pav., struct. & sign.) Folder #3

RR-665

RR-665

RELEASE AND ASSIGNMENT

The undersigned does hereby make claim against the ST. PAUL FIRE AND MARINE INSURANCE COMPANY, hereinafter referred to as Surety, for **-Two Thousand Two Hundred Twenty-Two and no/100-------------** dollars ($ **2,222.00**) under its bond issued on behalf of STACH CONSTRUCTION COMPANY, INC. on the work of construction commonly known as **labor only on painting of Overpass at Lime, Oregon (Oregon State Contract No. 7185)** for labor and material furnished by the undersigned on said job.

The undersigned certifies and warrants that the foregoing amount is justly due and unpaid to the undersigned on account of labor and/or material furnished to STACH CONSTRUCTION COMPANY, INC. or **SULLIVAN CONSTRUCTION CO.** for the construction of **labor only on painting of Overpass at Lime, Oregon (Oregon State Contract No. 7185)**.

The undersigned certifies and warrants that it has a valid claim for such amount upon the contract and against the bond taken from STACH CONSTRUCTION COMPANY, INC., as Principal, and ST. PAUL FIRE AND MARINE INSURANCE COMPANY, as Surety, for the same, and further certifies that all labor, material, charges and taxes incurred by the undersigned in connection therewith have been paid.

In consideration of the payment to us of **-Two Thousand Two Hundred Twenty-Two and no/100-------------------** dollars ($ **2,222.00**) the undersigned does hereby release and forever discharge the Surety, its successors and assigns, from any and all claims, demands, loss, costs, damages and expenses of whatever nature by reason of its aforementioned claim for labor and material; and does hereby assign, transfer and set over to the Surety all of its rights, title and interest in and to said claim against said contractor, and against any other individual, firm, corporation or fund, granting unto said Surety the right to treat said claims as its own, and to employ counsel and to proceed on such claim in the name and stead of the undersigned for any and all purposes, free and clear of any cost to said undersigned in prosecuting said claim; and the undersigned further agrees to execute such documents as requested in connection therewith, including a full and complete discharge and/or satisfaction and/or release of notice of lien or liens or withdrawal of stop notices or withholds at any time in connection with said claim.

Dated this **6th** day of **August**, 1970.

SULLIVAN CONSTRUCTION CO.

By

Robert E. Sullivan, Owner

(Title)

Dorene H. Dickey

Witness **Dorene H. Dickey**
Boise, Idaho

Claim No: 36 A 800273

Please Return to:
St. Paul Fire and Marine Insurance Company
Attention: J.M. Homer
200 Mills Building
San Francisco, California 94106

An itemized statement of claim may be attached hereto.

Claim filed with
Hwy Div. 5-27-70 &
with Secty of State 6-4-70
for 572
1550
$2222

RECEIVED
FEB 2 - 1971
FORM [illegible] (REV. 10-69)

FOR FILE

I-80N-7(25)341

7185

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
January 25, 1[illegible]

SUBJECT: Lime Section
Contract No. 7185
Engineering Charges

To:

Mr. Tom Edwards
Deputy State Highway Engineer
BUILDING

Your December 15 letter asks for an explanation of a 42-percent overrun in the engineering charges on this project. We submit the following:

1. The project overran heavily on completion time. Time allowed expired October 20, 1969 at which time the work was approximately 82 percent complete and the engineering overrun 6 percent. The project went through another winter period during which structure work continued and was actually completed April 21, 1970 with a 34-percent overrun of the contract time. Two time extensions have been formally considered and granted a total of 71 days. There are 22 days liquidated damages remaining withheld in the amount of $6,600. The second extension was recommended reluctantly but we felt there were compelling reasons and Federal Highway Administration concurred in the time granted.

2. There were 3 Price Agreements, 10 Extra Work Orders and 7 State Force Orders submitted and processed after the original contract time had expired. Some of these were pertinent to the time extension referred to above.

3. The project was delayed on the bid opening for several months. As late as June 4, 1968, the outlook was that bids would be received on July 25, 1968. Bids were actually opened October 3, 1968. Of course, not all the crew charges for this time were eligible for or shown as construction engineering, but we were geared up to handle the job and with little alternative work in this area for the crew. Full charges started under the contract as soon as eligible and then going into a winter season immediately. We note that the low bid contract amount was more than $246,000 under the next bidder, and $121,000 under our estimate.

File

NOTED
TOM EDWARDS

SP*52475-734

4. Engineering charges against this project were aggravated by the overrun of another project assigned to the same crew. The Bully Creek Reservoir-Vale-West FAS-C project engineering overran due partly to the severe and untimely August, 1968 rains. The job was forced into a shut-down of several weeks of what would have ordinarily been prime time. Over $7000 ~~$9,400~~ of charges originally made to that project were transferred on a non-participating basis to the subject project.

5. This project was completed with no claims forthcoming from the contractor. The same contractor had made four large complex claims on four other large projects he performed in recent years ahead of this one. The Resident Engineer was alerted to this background and we believe he paid diligent attention to the many details involved in engineering a large complex Interstate project these days.

6. This overrun was recently discussed again with the Region office. There was concern and effort to hold down the cost during the life of the project. The Resident Engineer made a written report on it last year. There was $3,618 in per diem charges for temporary borrowed help. Some of this was for specialized concrete paving inspection.

Some of our work sheets and a graph of the engineering costs are attached.

John A. Bond
for F. D. Morgan
Construction Engineer

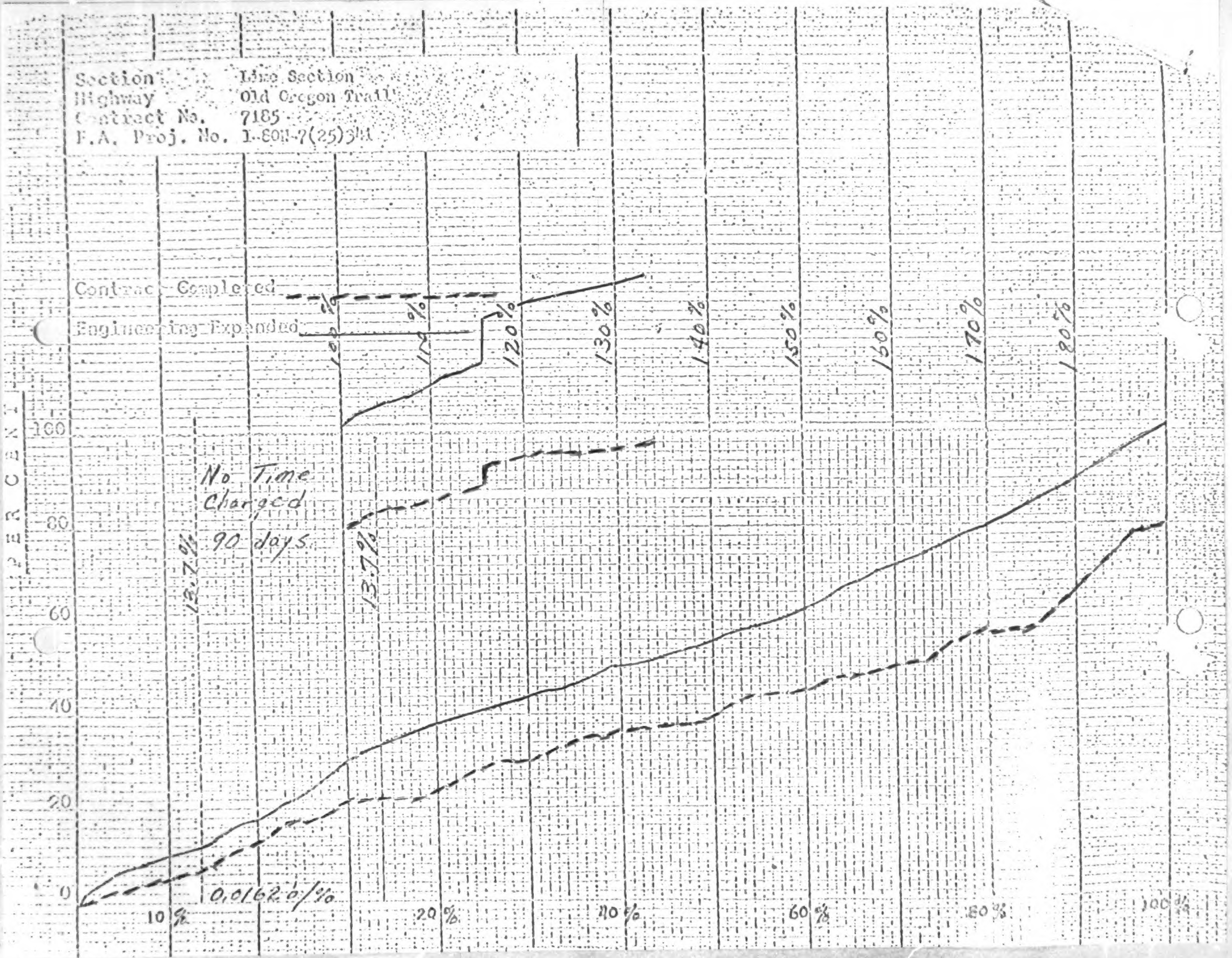
JAB:fw

Attach.

cc H. S. Coulter

RECEIVED
JAN 28 1971
OFFICE OF
STATE HIGHWAY ENGINEER

Section Lime Section
Highway Old Oregon Trail
Contract No. 7185
F.A. Proj. No. I-80N-7(25)341



OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
October 27, 1969

SUBJECT: Bully Creek Reservoir-Vale-West
Highway Section
Bully Creek Road FAS 23-106
Malheur County

To:
Mr. F. B. Klaboe
Assistant State Highway Engineer
BUILDING

In accordance with your instructions, we have transferred the sum of $7,143.92 of engineering costs from the subject project to the Lime Section Contract No. 7185 as a non-participating item.

This transfer will reduce the amount Malheur County is to be billed for to $9,419.19.

F. D. Morgan
Construction Engineer

By

John A. Bond
Construction Administration
Engineer

EAP:fr

cc: H. S. Coulter
E. S. Thompson
H. S. Cox (Attn: Harold Reynoldson)

Form [illegible]

OREGON STATE HIGHWAY
DEPARTMENT

TABULATION SHEET
SHEET .... OF .... SHEETS

JCS
Totals ✓ 403425.48 ✓ 13,024.70 ✓ 105.54 ✓ 5,682.61 601-1085

		[illegible]	[illegible]	[illegible]	[illegible]	Monthly Total	[illegible] Total to Date
Nov.	1970	—	—	—	—	—	422,238.33
Oct.	1970	—	—	—	—	—	422,238.33
Sept.	1970	137.81	66.19	—	—	204.00	422,232.33
Aug.	1970	385.64	—	—	—	385.64	422,034.33
July	1970	1,268.14	82.06	60.84	—	1,411.04	421,648.69
June	1970	8,242.30	196.60	—	26.79	8,465.69	420,237.65
May	1970	12,342.08	95.57	29.80	190.45	12,657.90	411,771.96
April	1970	15,841.23	308.13	—	11.00	16,160.36	399,116.06
Mar.	1970	11,164.08	193.44	—	291.79	11,649.31	382,955.70
Feb.	1970	7,977.52	132.65	14.90	1,343.09	9,468.16	371,304.39
Jan.	1970	17,251.44	267.74	—	57.00	17,576.18	361,836.23
Dec.	1969	19,015.38	221.55	—	—	19,236.93	344,260.05
Nov.	1969	29,662.68	372.17	—	—	30,034.85	325,023.12
Oct.	1969	36,270.50	7,584.94	—	—	43,855.44	294,988.27
Sept.	1969	34,236.35	293.36	—	—	34,529.71	251,132.83
Aug.	1969	30,007.29	245.47	—	—	30,252.76	216,603.12
July	1969	21,890.52	217.25	—	—	22,107.77	186,350.36
June	1969	19981.91	582.20	—	—	20,564.11	164,242.59
May	1969	20,514.14	426.24	—	—	20,940.38	143,678.48
April	1969	19063.11	480.42	—	115.86	19,659.39	122,738.10
Mar.	1969	17,481.65	123.03	—	3,120.75	20,725.43	103,078.71
Feb.	1969	22,234.93	345.38	—	525.88	23,106.19	82,353.28
Jan.	1969	18,912.27	201.76	—	—	19,114.03	59,247.09
Dec.	1968	20,959.48	199.93	—	—	21,159.41	40,133.06
Nov.	1968	14,712.55	185.54	—	—	14,896.09	18,973.65
Oct.	1968	3,872.46	205.10	—	—	4,077.56	4,077.56

Form E-15

OREGON [illegible]
DEPARTMENT [illegible]

TABULATION SHEET
SHEET 1 OF 2 SHEETS

[illegible]

[illegible]

[illegible]

[illegible]

		% [illegible]	% [illegible]
[illegible]	[illegible]	—	1.4
Oct.	[illegible]	[illegible]	[illegible]
Nov.	[illegible]	[illegible]	13.4
Dec.	[illegible]	[illegible]	19.9
Jan.	[illegible]	[illegible]	22.7
Feb.	[illegible]	[illegible]	34.7
Mar.	[illegible]	[illegible]	41.3
Apr.	[illegible]	34.0	[illegible]
		[illegible]	[illegible]
		[illegible]	[illegible]
		[illegible]	[illegible]
		[illegible]	[illegible]
		[illegible]	[illegible]
		[illegible]	[illegible]
[illegible]		[illegible]	[illegible]
			[illegible]

TABULATION SHEET

OREGON STATE [illegible]

SHEET ...... OF ...... SHEETS

[illegible]	[illegible]
[illegible]	142.0
[illegible]	142.1
[illegible]	143.1
[illegible]	142.1

[illegible]

	[illegible]	Final	Percent
[illegible]	$[illegible]	[illegible]	-6%
Contract amount	[illegible]	[illegible]	
Engineering Costs	[illegible]	[illegible]	+42.0
Specified Compl.	270 CWD	363 CWD	+34.0

1. Engr'g costs transferred from Contract #7135; FAS-C project to Amic project (#7,143) +9.4%

2. Dormant period, 12-1-68 to 2-28-69
Work performed 15%
Engr'g Costs 21.2% +6.2%

3. At end of Specified Compl. (270 CWD)
Oct. 30 69 Work compl. 92%
Engr'g costs 103%

4. Dormant period, 12-1-69 to 2-28-70
Work ~~compl~~ performed 5.2%
Engr'g Costs 13.1% +7.9%

5. [illegible] 3-1-70 and compl. date (363 CWD)
Work performed 7%
Engr'g costs [illegible] +1.2%

6. Engr. costs charged after compl. date
[illegible] Net +[illegible]

RECEIVED
JAN 2[illegible] 1971
FOR FILE

filed

FILED
DEC 28 1970
CLAY MYERS
SECRETARY OF STATE

RECEIVED
Dec 28 8 58 AM '70
CLAY MYERS
SECRETARY OF STATE

1859

OREGON STATE
HIGHWAY DIVISION
HIGHWAY BUILDING • SALEM, OREGON • 97310

I-80N-7(25)3[illegible]
7185

December 24, 1970

Donald H. Coulter
~~Attorney at Law~~
P. O. Box 26
Grants Pass, Oregon 97526

Dear Mr. Coulter:

This is to acknowledge receipt of your letter of December 22, 1970, and attached Notice of Claim of Stach Construction Company, Inc., which states that Roy L. Houck Sons' Corporation owes him for labor and materials in the amount of $260,926.29.

This appears to be in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for work on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S. E., Salem, furnished the performance bond on this contract. We will advise them of the receipt of this claim, and we will also forward it to the Secretary of State for filing.

Please advise this office when this claim has been paid.

As requested, we are returning a copy of this Notice of Claim with the Highway Commission received stamp for your file.

RECEIVED
DEC 29 1970
OREGON
STATE HIGHWAY COMMISSION

Very truly yours,

ORIGINAL SIGNED
FLOYD QUERY

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

Enclosure

cc The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation

bc Secretary of State - Please acknowledge receipt of the attached claim on the enclosed copy of this letter.

NOTED
C. W. HEAD

DONALD H. COULTER
ATTORNEY AT LAW
604 NORTHWEST FIFTH STREET
P. O. BOX 26
GRANTS PASS, OREGON 97526

TELEPHONE 479-5666
AREA CODE 503

December 22, 1970

Mr. Floyd Query
Secretary, Oregon State Highway Commission
State of Oregon
Salem, Oregon 97310

Dear Mr. Query:

Per the provisions of ORS 279.526 and ff., particularly 279.528, there is enclosed for filing with you on behalf of my client, Stach Construction Co., Inc., a notice of claim lodged against Roy L. Houck Sons Corporation as principal and Aetna Casualty & Surety Co. as surety, in the amount of $260,926.29.

You previously advised me that the contract on which this claim and notice is based, No. 7185, was accepted by the affirmative action of the Highway Commission on July 3, 1970.

I would appreciate it if you would endorse a filing stamp or other acknowledgment of the receipt of the notice upon the enclosed copy, in order that I may be assured of its filing and receipt within the period prescribed by ORS 279.528.

Thank you kindly for your help.

Yours truly,

Donald H. Coulter

DHC:d
Enc.

RECEIVED
DEC [illegible]
[illegible]
STATE [illegible] COMMISSION

Cc

NOTICE OF CLAIM

TO: THE OREGON STATE HIGHWAY COMMISSION, SALEM, OREGON.

Notice is hereby given that the undersigned, STACH CONSTRUCTION CO., INC., of Grants Pass, Oregon, has a claim for labor and materials for the construction of a bridge structure and allied work, performed and furnished by undersigned claimant as a subcontractor to Roy L. Houck Sons Corporation, in the sum of $260,926.29, against the bond taken from said Roy L. Houck Sons Corporation as principal, and Aetna Casualty & Surety Co., as surety, for the construction of highway work, consisting of Old Oregon Trail, Lime Section, Oregon State Highway Commission Contract No. 7185.

STACH CONSTRUCTION CO., INC.

By: Harry S. Stach
President

RECEIVED

RECEIVED
DEC 29 1970

4569

FILED
DEC 23 1970
CLAY MYERS
SECRETARY OF STATE

files

RECEIVED
DEC 23 8 56 AM '70
CLAY MYERS
SECRETARY OF STATE

NOTED ON CARD
fw
12-28-70

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

December 22, 1970

Soule' Steel Company
P. O. Box 10245
Portland, Oregon 97210

Attention: C. R. Reisner
District Credit Manager

Gentlemen:

This is in reply to your letter of December 21 informing us that the subcontractor for Roy L. Houck Sons' Corporation owes you for reinforcing steel in the amount of $3,092.44.

From the description given in your letter, this appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for work on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty and Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S. E., Salem, furnished the performance bond on this contract. We will advise the surety and the agent of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please advise this office when your claim has been paid.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc Roy L. Houck Sons' Corp.
The Aetna Casualty and Surety Co.
Updegraff Ins., Inc.
Commission
Hon. Clay Myers - Please acknowledge receipt of the attached claim on the enclosed copy of this letter.

NOTED
C. W. HEAD

SOULĒ STEEL COMPANY

3003 N.W. 35TH AVENUE ■ P.O. BOX 10245 ■ PORTLAND, OREGON 97210 ■ (503) 226-8441

December 21, 1970

Oregon State Highway Commission
State of Oregon
Salem, Oregon

Subject: Lime Section I-80 N
State Contract No. 7185

Gentlemen:

This is to inform you that Soule' Steel Company has a claim against the prime contractor on captioned project, Roy L. Houck Sons' Corporation, P. O. Box 671, Salem, Oregon 97308, and its surety, Aetna Life & Casualty, Casualty & Surety Division.

The amount of our claim is $3,092.44 and covers unpaid balance due us for reinforcing steel furnished for the project under subcontract from Roy L. Houck Sons' Corporation.

We certify that we have fully performed our work according to our contractural obligations and that the sum of $3,092.44 is unpaid and still due us.

This notice is sent to you in accordance with Oregon State Bond Law.

Yours very truly,

SOULE' STEEL COMPANY

CRReisner

C. R. Reisner
District Credit Manager

RECEIVED
DEC [illegible] 1970
[illegible]
STATE HIGHWAY COMMISSION

NOTED
FLOYD QUERY

SAN FRANCISCO • LOS ANGELES • SANTA ANA • VENTURA • FRESNO SOULĒ PORTLAND • PHOENIX • SALT LAKE CITY • LONG BEACH • SAN DIEGO

RECEIVED
DEC 10 1970
FOR FILING

I-80N-7(35) 3-11
7185

December 10, 1970

The Aetna Casualty and Surety Company
1201 S. W. 12th
Portland, Oregon 97205

Gentlemen:

A second post-final payment for $12,600 will be made to Ray L. Houck Sons' Corporation on Contract No. 7185 for work on the Lime Section of the Old Oregon Trail in Baker County as soon as the warrant is prepared.

The total amount paid on this contract will be $3,469,309.65 including the post-final payment. Of the total $46,494.10 is for force account and $60,000 has been retained to cover the estimated railroad costs chargeable to the contractor.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fhm

cc Ray L. Houck Sons' Corporation
P. O. Box 7361
Salem, Oregon 97308

Updegraff Insurance, Inc.
776 Commercial Street, S. E.
Salem, Oregon 97301

Frank Morgan
Ivan Merchant
V. E. Shoog
Attn: John Kerr
E. S. Coulter

file

RECEIVED
DEC 10 1970
FOR FILING

I-80N-7([illegible])
7185

DONALD H. COULTER
ATTORNEY AT LAW
604 NORTHWEST FIFTH STREET
P. O. BOX 26
GRANTS PASS, OREGON 97526

TELEPHONE 479-5666
AREA CODE 503

December 9, 1970

Mr. Floyd Query
Secretary, Oregon State Highway Commission
State of Oregon
Salem, Oregon 97310

Dear Mr. Query:

For purposes of providing a statutory notice of unpaid claim on behalf of Stach Construction Co., Inc. a sub-contractor to Roy L. Houck Sons Corporation, would you kindly give me the name of the surety on the performance bond? The work involved in the prime contract let to Roy L. Houck Sons Corporation was a segment of Old Oregon Trail Highway, Lime Section in Baker County, Oregon, covered by the commission's contract No. 7185.

Thank you very kindly for the information.

Yours truly,

Donald H Coulter

Donald H. Coulter

DHC:cmc

Mr. Coulter:

Aetna Casualty & Surety Co.
furnished the bond for Contract 7185
F.Q.

RECEIVED
DEC 10 1970
OREGON
STATE HIGHWAY COMMISSION

NOTED
FLOYD QUERY

RECEIVED
DEC 28 1970

FOR FILING
I-80N-7(2
-7185

December 1, 1970

Roy L. Houck Sons' Corporation
P. O. Box 7381
Salem, Oregon 97308

Gentlemen:

The Oregon State Highway Commission at its meeting on November 24, 1970, considered your request for an additional 95 days on Contract No. 7185 for work on the Lime section of the Old Oregon Trail in Baker County.

Careful consideration was given to the reasons you submitted. However, in light of the available facts and the provisions of the contract, the Commission granted you an extension of 42 days, without assessment of liquidated damages.

If there are pertinent facts which have not yet been considered, you should contact the Resident Engineer, the Regional Engineer, or the Construction Engineer in the Salem Office.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

mr

cc F. D. Morgan
V. E. Skoog
H. S. Coulter
E. S. Thompson
Federal Highway Administration

ROY L. HOUCK SONS' CORPORATION
Heavy Construction Contracting
1158 CHEMEKETA ST. N.E. SALEM, OREGON 97308
P.O. BOX 671 PHONE 585-5950

"AN EQUAL OPPORTUNITY EMPLOYER"

June 16, 1970

RECEIVED
JUN [illegible] 1970
E. S. THOMPSON
RES. ENGR.

Mr. E. S. Thompson, Resident Engineer
Oregon State Highway Department
P. O. Box 702
Ontario, Oregon

RE: Oregon State Highway Contract #7185
Lime Section-Old Oregon Trail Highway

Dear Sir:

Enclosed is a copy of our request for an Increase of Work Days for Contract No. #7185. We request this Extension based on the following:

A. CONTRACT INCREASES:

Bid Item 6. "General Excavation"

The plan quantity of 1,843,000 cubic yards was increased to 1,992,123 cubic yards, an increase of 149,123 cubic yards. This material increase was intermediate in nature and was excavated by a wheel loader with a production capacity of 350 cubic yards/hour - 2/3 of yardage a 2 shift operation 1/3 of yardage a one shift operation.

37 days + 14 days for non-work days = 51 days

Bid Item 38. "8 inch Perforated Pipe"

990 feet 300 feet per day = 3 days

This additional work increased the contract time required by 54 calendar work days as assessed by specification.

B. PRICE AGREEMENT INCREASES:

P.A. #11. Increase of Bid Item No. 50 "Guard Rail Anchors"

10 additional Anchors Production 2 per day = 5 days

P.A. #12. Increase of Re-steel and Class "A" Concrete in columns and Beam Extensions.

(a) Design, layout, fabricate, ship, place additional 8,340 lbs of steel reinforcement = 2 days

(b) Form, pour, cure, finish 17.1 cubic yards of concrete = 2 days

P.A. #13. Relocate 6" Steel Drain Pipe due to Engineering error = 1 day

P.A. #20. Furnish and Install Special Bridge Connections. 4 Connections-1 per day = 4 days

P.A. #22. Install Extra Post to bring existing rail to type 2A Standards.
605 feet 150 feet per day = 4 days

P.A. #24. Furnish and Place Special Sand Backfill
300 yards 75 yards per day = 4 days

This additional work increased the contract time required by 23 calendar work days as assessed by Specification.

C. FORCE ACCOUNT INCREASES:

F.A. #4 & #5. Embankment Foundation Excavation
$4,528.46 ÷ 1.25 per yard (est. cost) = 3,623 c.y.
3,623 yards ÷ 125 yards per hour = 28 hours = 4 days 4 days

F.A. #9. Install Conduit and Barricade Lights for Permanent Barricades.

Conduit Boring	1 day
Electrical Work	2 days
Placement & Adjustments	2 days
	5 days

5 days

F.A. #15. Construct Brush Curbs on existing structure-1 day

F.A. #16. Grind Pavement caused by pavement displacement-3 days

F.A. #17. Excavation for Perforated Pipe 5 days

This additional work increased the contract time required by 18 calendar work days as assessed by specification.

95 days

Your early response to our request would be appreciated.

Sincerely,

ROY L. HOUCK SONS' CORPORATION

Jim Lambie

Jim Lambie
Assistant Grading
Division Manager

JL:nk

Form FHWA-121 (12-67)
UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

TO : Mr. R. L. Porter, State Highway Engineer
Salem, Oregon

DATE: November 13, 1970

In reply refer to: 08-35-DA

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Project I-80N-7(25)341
Lime Section, Old Oregon Trail Highway
Time Extension

Your request for extending the contract time 42 calendar workdays as contained in Mr. Porter's October 29 letter on the subject project is approved.

11-17-70
copy to Con. Is.

NOTED
TOM EDWARDS

RECEIVED
NOV 16 1970
OFFICE OF
STATE HIGHWAY ENGINEER

Johnson

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

October 29, 1970

Mr. R. E. Simpson, Division Engineer
Federal Highway Administration
Post Office Box 300
Salem, Oregon 97308

Dear Sir:

Re: Lime Section, Old Oregon Trail Highway
Project No. I-80N-7(25)341
Contract No. 7185
Your File: 08-35-DA5

The contractor on the subject project has submitted a second request for extension of time on the project, contending that an additional 95 days are justified on three broad reasons:

1. Contract quantity increases - General excavation and perforated pipe.
2. Six added Price Agreements - Three guardrail items, added steel and concrete in structure, 300 yards of sand backfill on perforated pipe (related to Extra Work Order No. 17).
3. Six added Extra Work Orders - Embankment foundation excavation, lighted barricades, pavement grinding, perforated pipe excavation, and structure curbs.

The contractor's first request for extension was considered early this year and your February 24 letter concurred in a 29-day time extension. This was for added foundation excavation, added seeding and mulching, and delay on the part of the railroad in carrying out some of its obligations. After taking this extension into account, the project was completed April 21, 1970, with 64 days liquidated damages in effect at the rate of $300 per day for a total of $19,200.

In reviewing this second request, we think it should be related to specific dates during the life of the project. We find three time intervals that merit close consideration, as follows:

1. The plan quantity of the so-called railroad cut immediately adjacent to the railroad overcrossing structure overran significantly (from 10,868 c.y. plan to about 96,000 c.y. actual). This excavation operation was in close proximity of Bents 4 and 5 of the overcrossing structure. This item was considered in the first request and, though no time was recommended on it then, we pointed out that reconsideration might be necessary.

It has now been pointed out that more than just the actual excavation overrun is involved. The slope adjacent to the railroad had to be finished suitable for the future slope paving and the railroad drainage ditch section had to be made before the grading equipment was completely out of the way of the structure people. This explains why work on Bent No. 5 did not start immediately after the railroad cut was out. The contractor worked steadily in this railroad cut for the two weeks ending May 24 (and had also worked in the vicinity earlier). Some slope finishing and ditch work would have had to be done in any event. We therefore believe only the reasonable time required for removing the overrun quantity is valid for extension. We believe the two weeks referred to above would be fair for this, so we now recommend 14 days extension because of the railroad cut excavation overrun.

2. One of the late extra work order items was for grinding off the heaved area of concrete pavement at the Lime cut. The actual work involved on this only took one day (April 1), but additional time was required to consider the problem and then locate and mobilize the equipment involved. This focuses attention on the 19 days from March 13 when the A.C. work was all completed (on ramps, shoulders, etc.) to April 1. Other work was under way on guardrail, median rail, and reshaping slopes (Extra Work Order No. 12) along with some structure finishing work. We recommend allowing approximately one half of this 19-day interval or 9 days because of the bump grinding and other extra work done during this time.

3. The project was opened to traffic April 2, but time charges continued through the final completion date of record, which is April 21. This is another 19-day interval during which considerable late added work was performed, including excavation for perforated pipe in the Lime cut (Extra Work Order 17 and Price Agreement 24), barricade lighting (Extra Work Order 9), and the last guardrail installations which were on the old highway where we encouraged that the work be done after the traffic had been put onto the new route. We recommend that the entire 19 days be allowed for extension after the route was opened to traffic.

The three time segments recommended above amount to 42 days. This would leave 22 days, or $6,600 liquidated damages, in effect. We ask your concurrence in a 42-day extension.

Very truly yours,

R. L. Porter
State Highway Engineer

By

A. E. Johnson
Assistant State Highway Engineer

cc R. L. Porter
Tom Edwards
F. D. Morgan

FORM E-30 (12-67)

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
October 15, 1970

SUBJECT: Lime Section
Contract No. 7185
Request for Time Extension

To:

Mr. A. E. Johnson
Assistant State Highway Engineer
BUILDING

Roy L. Houck Sons' Corporation has submitted a second request for extension of time on this project contending that an additional 95 days are justified on three broad reasons:

1. Contract quantity increases - General excavation and perforated pipe.
2. Six added Price Agreements - three guardrail items, added steel and concrete in structure, 300 yards of sand backfill on perforated pipe (is related to Extra Work Order No. 17).
3. Six added Extra Work Orders - Embankment Foundation Excavation, lighted barricades, pavement grinding, perforated pipe excavation and structure curbs.

NOTED
A. E. JOHNSON

The contractor does not relate any of the above to specific dates or times within the contract's span. Some of the items are probably concurrent and we suspect some of it took place during the winter three-month dormant period when no time was being charged against the contract.

The contractor's first request for extension was considered early this year and went to the Highway Commission for their March 17 meeting at which time a 29-day extension was granted. This was for added foundation excavation, added seeding and mulching, and delay on the part of the railroad in carrying out some of their obligations. After taking this extension into account, the project was completed April 21, 1970 with 64 days liquidated damages in effect at the rate of $300 per day for a total of $19,200. A progress chart starting in spring of 1969 is attached.

In reviewing this second request, we think it should be related to specific dates during the life of the project. We find three time intervals that merit close consideration as follows:

1. The plan quantity of the so-called railroad cut immediately adjacent to the railroad overcrossing structure overran significantly (from 10,868 plan to about 96,000 actual). This item was considered in the first request and was rejected at that time as a reason for extension after considerable discussion. We tried to leave the way open for further consideration in both our recommendation to your office and to Federal Highway Administration. It has now been pointed out that more than just the actual excavation overrun is involved. The slope adjacent to the railroad had to be finished suitable for the future slope paving and the railroad drainage ditch section had to be made before the grading equipment was completely out of the way of the structure people. This explains why work on Bent No. 5 did not start immediately after the railroad cut was out. The contractor worked steady in this railroad cut for the two weeks ending May 24. Some slope finishing and ditch work would have had to be done in any event. We therefore believe only the reasonable time required for removing the overrun quantity is valid for extension. We believe the two weeks referred to above would be fair for this, so we now recommend 14 days extension because of the railroad cut excavation overrun.

2. One of the late extra work order items was for grinding off the concrete bump at the Lime cut. The actual work involved on this only took 1 day (April 1), but additional time was required to consider the problem and then locate and mobilize the equipment involved. This focuses attention on the 19 days from March 13, when the AC work was all completed (on shoulders, ramps, and so forth) to April 1. Other work was under way on guardrail, median rail and reshaping slopes (Extra Work Order 12) along with some structure finishing work. We recommend arbitrarily allowing approximately one-half of this 19-day interval or 9 days because of the bump grinding and other extra work done during this time.

3. The project was opened to traffic April 2, but time charges continued through the final completion date of record which is April 21. This is another 19-day interval during which considerable late added work was performed including excavation for perforated pipe in the Lime cut (EWO 17 and PA 24), barricade lighting (EWO 9), and the last guardrail installations which were on the old highway where we encouraged that the work be done after the traffic had been put onto the new route. We recommend that the entire 19 days be allowed for extension after the route was opened to traffic.

The three time segments recommended above amount to 42 days. This would leave 22 days or $6,600 liquidated damages in effect. Rough draft letters to the Federal Highway Administration and the Highway Commission are attached.

F. D. Morgan
Construction Engineer

By

John A. Bond
Construction Administration Engineer

RECEIVED
OCT 1[illegible]
OFFICE OF
STATE HIGHWAY ENGINEER

JAB:fw
Enc.
cc V. L. Gallagher

RECEIVED
NOV 19 1970

FOR FILING

I-80N-[illegible]
7185

November 19, 1970

Oregon State Highway Commission

Request for Extension of Time
No. 5
November 24, 1970 meeting

Gentlemen:

Roy L. Houck Sons' Corporation, contractor on the Lime Section of the Old Oregon Trail Highway, I-80N, Contract No. 7185 in Baker County, has made a second request for time extension. The contractor alleges that quantity overruns on General Excavation and perforated pipe, added Price Agreements and Extra Work Orders justify an additional 95 days. An earlier request for extension made before the project was completed was considered at your March 17, 1970 meeting at which time a 29-day extension was granted for reasons other than those now presented. The project was actually completed April 21, 1970, with 64 days liquidated damages still in effect at the rate of $300 per day for a total of $19,200.

The quantity of excavation in one of the cuts immediately adjacent to the railroad and to the railroad overcrossing structure which was also built under the same contract did overrun from the plan quantities significantly. Footing and foundation work for two bents of the overcrossing structure could not be commenced until the grading work in the immediate area was accomplished. The structure work was a major item on the contract and was one of the last items completed. The earlier delay from the railroad cut excavation overrun justifies an additional 14 days time.

At a very late stage in the project, after the concrete paving was all completed, a gradual uplifting or heave of a small area of the pavement became apparent. This was where a deep cut had been made and is apparently caused by movement at considerable depth below the roadway. It was decided to grind the concrete surface to ease the abruptness and provide a satisfactory riding surface before opening of the new roadway to traffic. This was done as added extra work and the time required for doing it and the delay in analyzing the problem and mobilizing the equipment justifies 9 days time extension.

The project was opened to traffic April 2, 1970, and a significant amount of the work done after that date was on late added items for perforated pipe installation in the Lime cut (related to the problem described in the paragraph above), barricade lighting and guardrail.

The above reasons collectively justify a total time extension of 42 days and extension for this time is recommended. This will leave 22 days liquidated damages in effect in the amount of $6,600. This is a Federal-aid Interstate project and we have the concurrence of the Federal Highway Administration.

This matter will be on the agenda for your consideration at the November 24 meeting.

Very truly yours,

R. L. Porter
State Highway Engineer

cc: Floyd Query
Tom Edwards
A. E. Johnson
Victor D. Wolfe
F. D. Morgan
L. H. Young
V. E. Skoog
H. S. Coulter

JAB:fw sr

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request for Increase in Number of Workdays to Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 7185 Contractor Roy L. Houck Sons', Corporation

Highway Old Oregon Trail

Section Lime

Kind of Work Grading, Paving, Structures and Signing

It is recommended that the request for increase in the number of workdays within which to complete said contract be ~~DENIED or~~ GRANTED. The reasons for such recommendation are as follows:

Grant 42 days extension for overrun of excavation in railroad cut, delay in correcting heaving pavement and late extra work done after the project was opened to traffic.

Contract No. 7185
Project designation I-80N-7(25)34 State-Federal
Date awarded 10/14/68
Work started 10/21/68
Per cent completed 100%, June 4, 1970 Date
No. of Workdays Allowed 270 + 29
No. of Workdays Used 363
No. of Added Workdays Requested 95

Recommended for Approval:

Regional Maintenance ~~Division~~ Engineer

for Construction Engineer or ~~Bridge Engineer~~

Assistant State Highway Engineer

[illegible]

E-220 (Rev.)—5M—9-64

OREGON STATE HIGHWAY COMMISSION

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon 97310

Date 6/16/, 1970

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from 299 days to 394 days, within which to complete our Contract No. 7185, without the assessment of liquidated damages. The said contract is described as follows:

Lime Section, Old Oregon Trail Highway, Baker County

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows:

Enclosure

Respectfully submitted,

Roy L. Houck Sons' Corporation
Contractor

By

CONSENT OF SURETY

Date June 16, 1970

We, AETNA CASUALTY & SURETY CO.

, as

surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

S H Updegraff Jr
Attorney-in-fact

(SEAL)

Updegraff Insurance Co.
Resident Agent

RECEIVED
OCT 6 1970
FOR FILING

I-80N-7(25) 3-11
7185

October 6, 1970

Dubb Motor
Huntington, Oregon 97907

Gentlemen:

Thank you for your letter of September 28 informing us that Stach Construction Company of Grants Pass has paid his account in full.

This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for work on the Lime Section of the Old Oregon Trail in Baker County.

Our records indicate that your claim was for material in the amount of $561.60 which was filed with the Secretary of State on May 14, 1970.

This information will be noted in our records and we will advise the surety and the contractor of the receipt of your letter.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:kl

cc Aetna Casualty & Surety Co.
Bond Department
1201 S. W. 12th Avenue
Portland, Oregon 97205

Updegraff Insurance, Inc.
776 Commercial Street, S. E.
Salem, Oregon 97301

Roy L. Houck Sons' Corporation
P. O. Box 7381
Salem, Oregon 97308

Stach Construction Company
P. O. Box 730
Grants Pass, Oregon 97526

bc Commission

NOTED ON CARD
10-6-70
KL

Huntington Ore
Sept 28 - 70

Oregon State Hgway Comm
Salem
Mr. Floyd Query

Re: Haulk Son
Stack Const Co
Contract 7185 ✓

Our account with Stack Const Co Grants Pass Oregon Has now been Paid in full.

Bubb Motor
J O Bubb
Huntington Oregon

RECEIVED
SEP [illegible]0 1970
OREGON
STATE HIGHWAY COMMISSION

NOTED
C. W. HEAD

NOTED
FLOYD QUERY

RECEIVED
SEP 16 1970

I 80N-7(25) 341

DONALD H. COULTER
ATTORNEY AT LAW
604 NORTHWEST FIFTH STREET
P. O. BOX 26
GRANTS PASS, OREGON 97526

TELEPHONE 479-5666
AREA CODE 503

September 15, 1970

Mr. Floyd Query
Secretary, Oregon State Highway Commission
State of Oregon
Salem, Oregon 97310

Dear Mr. Query:

For purposes of determining time period for filing notice of unpaid claim, would you kindly advise me if there has been a completion of the highway work by Roy L. Houck Son's Corp. on Old Oregon Trail Highway, Lime Section, in Baker County, Oregon, which is covered by the department's contract No. 7185.

I shall appreciate the information.

Yours truly,

Donald H. Coulter

DHC:cmc

Contract Completed April 21, 1970 and
Accepted by the Hwy Commission
On July 3, 1970

Floyd Query

RECEIVED
SEP 16 1970
OREGON
STATE HIGHWAY COMMISSION

Orig returned to Coulter 9-16

2

AUG 27 1970

FOR FILES

I-81N-1(25)311

7175

August 25, 1970

Durablock Co.
695 Campbell Street
Baker, Oregon 97814

Gentlemen:

Thank you for your recent letter informing us that you have received the amount due you for material furnished for the Roy L. Houck Sons' Contract No. 7185, Lime Section, Old Oregon Trail in Baker County.

Our records indicate that this is in connection with your claim against Stach Construction Co., subcontractor on this contract, for material in the amount of $2,973.10.

This information will be noted in our records and we will advise all interested parties of the receipt of your letter.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By
C. W. Head, Assistant Secretary

CWH:cr

cc: The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation
Commission

NOTED ON CARD
8-25-70
CR

TO Mr. Floyd Query, Secretary
Oregon State Highway Commission
Highway Building

Salem, Oregon 97310

FROM

DURABLOCK CO.
695 CAMPBELL ST.
BAKER, OREGON
PHONE: JA 3-2719

SUBJECT: Re: Claim - Stach Construction Company, sub-contractor of Roy L. Houck Sons - Oregon State Highway Commission Contract No. 7185 - Lime Section Old Oregon Trail Highway, Baker County.

DATE: 8-13-70

FOLD ↑

We have received the amount due us for material furnished on the above job.

PLEASE REPLY TO ⟶ SIGNED Louis Townsend

RECEIVED
AUG 17 1970
OREGON
STATE HIGHWAY COMMISSION

DATE SIGNED

SEND WHITE AND PINK COPIES WITH CARBONS INTACT. PINK COPY IS RETURNED WITH REPLY.

GRAYARC CO., BROOKLYN 32, N. Y.

CC: OREGON STATE HIGHWAY COMMISSION

RECEIVED
OCT 2 - 1970
FOR FILING

I-80N-7(25)
7185

La Grande, Oregon
August 21, 1970

"CERTIFIED MAIL"

C O P Y

Aetna Casualty & Surety Co.
1201 S. W. 12th
Portland, Oregon 97200

Re: Roy L. Houck Sons' Corporation
Contract #7185
Oregon State Highway Department
Old Oregon Trail - Lime Section
Baker County, Oregon

Gentlemen:

Please refer to our claim dated January 20, 1970 against Roy L. Houck Sons' Corporation, prime contractor on the above mentioned contract. This is to advise that a portion of our claim, in the amount of $911.33, remains unpaid.

During a telephone conversation April 15th, our La Grande Sales Representative was advised that it was the opinion of the bonding company that this account had been paid in full, but since it had not, we would be receiving payment within the next 10 days. Since that time we have received applications to reduce the account to the amount of $695.72 and we now hereby make demand for payment thereof plus interest on this past due balance.

Yours very truly,

WESTERN EQUIPMENT COMPANY

Jean E. Walker

Jean E. Walker (Mrs.)
Credit Department

NOTED
FLOYD QUERY

Cu

JEW/lb

RECEIVED
AUG [illegible] 1970
OREGON
STATE HIGHWAY COMMISSION

NOTED
C. W. HEAD

RECEIVED
AUG 18 1970

FOR FILING

I-[illegible]
7185

August 12, 1970

The St. Paul Insurance Companies
San Francisco Service Center
200 Mills Building
San Francisco, California 94106

Attn: J. M. Homer
Regional Bond Claims Superintendent

Gentlemen:

This is to acknowledge receipt of your letter of August 3 and attached release and assignment forms concerning the following:

Your File: Stach Construction Company, Inc.
Our Claim No: 36 A 800273
Bond No: 404 AF 4401
Obligee: Roy L. Houck Sons' Corporation
Job: Old Oregon Trail, Lime Section

This material appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures, and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty and Insurance Company through Updegraff Insurance, Inc. furnished the performance bond on this contract. Material and labor claims have been filed against this contract.

This type of release and assignment form is new to this office. Please advise.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:ses

THE ST. PAUL
INSURANCE COMPANIES

Serving you around the world...around the clock

SAN FRANCISCO SERVICE CENTER
200 MILLS BUILDING
SAN FRANCISCO, CALIFORNIA 94106
TELEPHONE 781-4022

Oregon State Highway Department
State Highway Building
Salem, Oregon 97310

Re: Your File: Stach Construction Company, Inc.
Our Claim No: 36 A 800273
Bond No: 404 AF 4401
Obligee Roy L. Houck Sons' Corporation
Job: Old Oregon Trail, Lime Section

Gentlemen:

So that we may give prompt consideration to your claim in connection with the above captioned work of construction, please complete and execute the attached Release and Assignment and return it to us along with copies of such billings, invoices, etc. which demonstrate that the charges are properly applicable to this job.

Yours very truly,

J.M. Homer
ac

J.M. Homer
Regional Bond Claims Superintendent
St. Paul Fire & Marine Insurance Company

enc.

August 3, 1970

RECEIVED
AUG 5 1970
OREGON
STATE HIGHWAY COMMISSION

THE ST. PAUL INSURANCE COMPANIES ST. PAUL FIRE AND MARINE INSURANCE COMPANY
ST. PAUL MERCURY INSURANCE COMPANY • WESTERN LIFE INSURANCE COMPANY

RELEASE AND ASSIGNMENT

The undersigned does hereby make claim against the ST. PAUL FIRE AND MARINE INSURANCE COMPANY, hereinafter referred to as Surety, for ____________________ dollars ($____________) under its bond issued on behalf of STACH CONSTRUCTION COMPANY, INC. on the work of construction commonly known as ____________________ for labor and material furnished by the undersigned on said job.

The undersigned certifies and warrants that the foregoing amount is justly due and unpaid to the undersigned on account of labor and/or material furnished to STACH CONSTRUCTION COMPANY, INC. or ____________________ for the construction of ____________________.

The undersigned certifies and warrants that it has a valid claim for such amount upon the contract and against the bond taken from STACH CONSTRUCTION COMPANY, INC., as Principal, and ST. PAUL FIRE AND MARINE INSURANCE COMPANY, as Surety, for the same, and further certifies that all labor, material, charges and taxes incurred by the undersigned in connection therewith have been paid.

In consideration of the payment to us of ____________________ dollars ($____________) the undersigned does hereby release and forever discharge the Surety, its successors and assigns, from any and all claims, demands, loss, costs, damages and expenses of whatever nature by reason of its aforementioned claim for labor and material; and does hereby assign, transfer and set over to the Surety all of its rights, title and interest in and to said claim against said contractor, and against any other individual, firm, corporation or fund, granting unto said Surety the right to treat said claims as its own, and to employ counsel and to proceed on such claim in the name and stead of the undersigned for any and all purposes, free and clear of any cost to said undersigned in prosecuting said claim; and the undersigned further agrees to execute such documents as requested in connection therewith, including a full and complete discharge and/or satisfaction and/or release of notice of lien or liens or withdrawal of stop notices or withholds at any time in connection with said claim.

Dated this ________ day of ________________, 1970.

____

By ____________________

____________________ (Title)

____
Witness

Claim No: 36 A 800273

Please Return to:

St. Paul Fire and Marine Insurance Company
Attention: J.M. Homer
200 Mills Building
San Francisco, California 94106

An itemized statement of claim may be attached hereto.

RELEASE AND ASSIGNMENT

The undersigned does hereby make claim against the ST. PAUL FIRE AND MARINE INSURANCE COMPANY, hereinafter referred to as Surety, for ______________________________ dollars ($____________) under its bond issued on behalf of STACH CONSTRUCTION COMPANY, INC. on the work of construction commonly known as ______________________________ for labor and material furnished by the undersigned on said job.

The undersigned certifies and warrants that the foregoing amount is justly due and unpaid to the undersigned on account of labor and/or material furnished to STACH CONSTRUCTION COMPANY, INC. or ______________________________ for the construction of ______________________________.

The undersigned certifies and warrants that it has a valid claim for such amount upon the contract and against the bond taken from STACH CONSTRUCTION COMPANY, INC., as Principal, and ST. PAUL FIRE AND MARINE INSURANCE COMPANY, as Surety, for the same, and further certifies that all labor, material, charges and taxes incurred by the undersigned in connection therewith have been paid.

In consideration of the payment to us of ______________________________ dollars ($____________) the undersigned does hereby release and forever discharge the Surety, its successors and assigns, from any and all claims, demands, loss, costs, damages and expenses of whatever nature by reason of its aforementioned claim for labor and material; and does hereby assign, transfer and set over to the Surety all of its rights, title and interest in and to said claim against said contractor, and against any other individual, firm, corporation or fund, granting unto said Surety the right to treat said claims as its own, and to employ counsel and to proceed on such claim in the name and stead of the undersigned for any and all purposes, free and clear of any cost to said undersigned in prosecuting said claim; and the undersigned further agrees to execute such documents as requested in connection therewith, including a full and complete discharge and/or satisfaction and/or release of notice of lien or liens or withdrawal of stop notices or withholds at any time in connection with said claim.

Dated this ________ day of ____________________, 1970.

____

______________________________ By ______________________________

Witness

______________________________ (Title)

Claim No: 36 A 800273

Please Return to:

St. Paul Fire and Marine Insurance Company
Attention: J.M. Homer
200 Mills Building
San Francisco, California 94106

An itemized statement of claim may be attached hereto.

RELEASE AND ASSIGNMENT

The undersigned does hereby make claim against the ST. PAUL FIRE AND MARINE INSURANCE COMPANY, hereinafter referred to as Surety, for ____________________ dollars ($____________) under its bond issued on behalf of STACH CONSTRUCTION COMPANY, INC. on the work of construction commonly known as ____ for labor and material furnished by the undersigned on said job.

The undersigned certifies and warrants that the foregoing amount is justly due and unpaid to the undersigned on account of labor and/or material furnished to STACH CONSTRUCTION COMPANY, INC. or ____________________
for the construction of ____.

The undersigned certifies and warrants that it has a valid claim for such amount upon the contract and against the bond taken from STACH CONSTRUCTION COMPANY, INC., as Principal, and ST. PAUL FIRE AND MARINE INSURANCE COMPANY, as Surety, for the same, and further certifies that all labor, material, charges and taxes incurred by the undersigned in connection therewith have been paid.

In consideration of the payment to us of ____________________ dollars ($__________) the undersigned does hereby release and forever discharge the Surety, its successors and assigns, from any and all claims, demands, loss, costs, damages and expenses of whatever nature by reason of its aforementioned claim for labor and material; and does hereby assign, transfer and set over to the Surety all of its rights, title and interest in and to said claim against said contractor, and against any other individual, firm, corporation or fund, granting unto said Surety the right to treat said claims as its own, and to employ counsel and to proceed on such claim in the name and stead of the undersigned for any and all purposes, free and clear of any cost to said undersigned in prosecuting said claim; and the undersigned further agrees to execute such documents as requested in connection therewith, including a full and complete discharge and/or satisfaction and/or release of notice of lien or liens or withdrawal of stop notices or withholds at any time in connection with said claim.

Dated this ________ day of ________________, 1970.

____

By ____________________________________

____________________________________ Witness

____________________________________ (Title)

Claim No: 36 A 800273

Please Return to:

St. Paul Fire and Marine Insurance Company
Attention: J.M. Homer
200 Mills Building
San Francisco, California 94106

An itemized statement of claim may be attached hereto.

RECEIVED
AUG 13 1970

FOR FILING

I-80N-7(35)311
7185

August 12, 1970

Idaho Power Company
Payette
Idaho

Gentlemen:

Thank you for your letter of August 7 advising us that you have received a check in the amount of $47.20 in full payment of your claim against Stach Construction Company, Inc.

Our records indicate that this is in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures, and signing on the Lime Section of the Old Oregon Trail in Baker County.

This information will be noted in our records, and we will advise the surety and the principal contractor of the receipt of your letter.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:ses

cc: The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation
Oregon State Highway Commission

NOTED ON CARD
8-12-70 ses

SNAKE RIVER
HYDRO POWER

IDAHO POWER COMPANY

Payette, Idaho
August 7, 1970

Oregon State Highway Commission
Floyd Query, Secy.
State Highway Bldg.
Salem, Oregon 97310

Re: Contract 7185 - Lime Section

Dear Sir:

This letter is to notify you that we have received a check in the amount of $47.20 in full payment of our claim against Stach Construction Co., Inc. This completes all claims we have against the final settlement of contract #7185 - Lime Section.

I would like to thank you for your cooperation and help that made it possible for us to clear our claim so promptly.

Very truly yours,

J. B. Landon
Div. Acctg. Mgr.

JBL:id

cc: J. P. O'Connor
L. G. Bean

NOTED
FLOYD QUERY

RECEIVED
AUG 10 1970
OREGON
STATE HIGHWAY COMMISSION

c

RECEIVED
AUG 3 - 1970
FOR FILING

I-80N-7(25) 341
7185

July 31, 1970

Sullivan Construction Co.
515 S.W. 11th Street
Ontario, Oregon 97914

Gentlemen:

This is in reply to your letter of July 29 concerning your claim for labor in the amounts of $672 and $1,550 filed against Roy L. Houck Sons' Corporation Contract No. 7185.

Our records indicate that your claim was filed with the Secretary of State on June 4, 1970, and was assigned his File No. 4524. This filing will protect your claim under the bond. The contract was accepted by the Oregon State Highway Commission on July 3, 1970.

For your information we are attaching a copy of excerpts from the Oregon revised statutes relating to public contracts. Action by claimant on contractor's bond is outlined under ORS 279.536 on page 3 of the excerpts.

In other cases similar to yours, we have suggested that they contact their attorney. You might wish to do the same. We are forwarding a copy of your letter to the Aetna Casualty & Surety Company and to Roy L. Houck Sons' Corporation.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:cr
Att.

cc: The Aetna Casualty & Surety Company
Roy L. Houck Sons' Corporation

BONDED -- COMMERCIAL & RESIDENTIAL BUILDINGS

SULLIVAN CONSTRUCTION CO.

GENERAL CONTRACTOR
Robert E. Sullivan
515 S.W. 11th Street
ONTARIO, OREGON 97914
Phone 889-8496

July 29, 1970

Oregon State Highway Division
Highway Building
Salem, Oregon 97310

RE: Roy Houck Sons Corp.
Contract # 7185
Lime Section-Baker County

Dear Sir:

We have received no payment to date on our statements for labor issued to Stach Construction Co., in the amount of $672.00 and $1,550.00.
Would you please inform us how to go about collecting this account.
Labor is a direct cost to us and our bills were paid immediately with money at 9½% interest.
Thank You.

Sincerely,

Robert E Sullivan

NOTED
FLOYD QUERY

RECEIVED
JUL [illegible] 1970
OREGON
STATE HIGHWAY COMMISSION

NOTED
[illegible] HEAD

Files

4542

RECEIVED
AUG 6 - 1970

FILED
JUL 31 1970
CLAY MYERS

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

July 30, 1970

Western Landscaping, Inc.
P. O. Box 146
Lynnwood, Washington

Attention: Donald F. Carlstrom

Gentlemen:

This is to acknowledge receipt of your letter of July 27 advising us that you have a balance due of $2,709.69 for labor and materials furnished on Contract No. 7185.

This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty and Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S. E., Salem, furnished the performance bond on this contract. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

ORIGINAL SIGNED
FLOYD QUERY

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

NOTED ON CARD
8-3-70 des

cc Roy L. Houck Sons' Corp.
The Aetna Casualty and Surety Co.
Updegraff Ins., Inc.

Hon. Clay Myers - Please acknowledge receipt of the attached claim on the enclosed copy of this letter.

Western Landscaping, Inc.

P.O. BOX 146 LYNNWOOD, WASH. Phone PRospect 6-2197

Commercial Landscaping - Erosion Control

July 27, 1970

Oregon Highway Department
Salem, Oregon 97301
Claims Department

Attn: Mr. Query

Re: Contract #7185
Fed. Aid #I-80N-7(25)341
Old Oregon Trail Hiwy
Lime Section, Baker Cty,Ore.

Dear Sir:

Per our telephone conversation of the 24th, we are submitting our claim on the above mentioned job.

The job consisted of 59.74 acres with a total dollar value of $16,281.75 of which we have received $13,572.06 leaving a balance of $2,709.69 to be paid on the job.

We furnished labor and materials for the job completing it on the 16th of April, 1970.

Sincerely,

Donald F. Carlstrom

DONALD F. CARLSTROM

DFC:sh

Noted
[illegible] Query

RECEIVED
JUL 29 1970
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
JUL 30 1970

FOR FIL

I-80N-7(25)341

2145

July 30, 1970

Arthur Simonsen & Co., Inc.
3005 N. 3rd Street
Baker, Oregon 97814

Gentlemen:

This is to acknowledge receipt of your letter of July 25 concerning your claim for equipment rental in the amount of $1,109.96 against Roy L. Houck Sons' Corporation.

Our records show that your claim was filed with the Secretary of State on May 29, 1970, and was assigned his File No. 4522. This filing will protect your claim under the bond. This contract was accepted by the Oregon State Highway Commission on July 3, 1970.

You mentioned in your letter that you have had no reply to your letters or statements from the contractor, agent, or surety. For your information we are attaching a copy of excerpts from the Oregon revised statutes relating to public contracts. Action by claimant on contractor's bond is outlined under ORS 279.536 on page 3 of the excerpts.

In other cases similar to yours, we have suggested that they contact their attorney. You might wish to do the same. We are forwarding a copy of your letter to the Aetna Casualty & Surety Company and Roy L. Houck Sons' Corporation.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:ses

cc Aetna Casualty & Surety Co.
Roy L. Houck Sons' Corp.

Arthur Simonsen & Co., Inc.
General Contractors
3005 N. 3rd Street
Baker, Oregon 97814

ARTHUR SIMONSEN
523-5013

ROGER SIMONSEN
523-4318

July 25, 1970

Oregon State Highway Division
State Highway Bldg.
Salem , Oregon 97310

Mr, Floyd Query , Secretary.

Dear Mr. Query :

I am writing you again in regards to advise as to steps necessary to make collection for equipment rental due us on Roy L. Houck Sons' Corporation Contract No. 7185 in the amount of $ 1,109.96 pluss interest of $ 45.06 for a total amount as of August 1 , 1970 of $ 1,155.02 .

To date we have not had the consideration of a reply as to statements or letters to either Roy L. Houck Sons' Corporation , Updegraff Insurance Agency , or Aetna Casualty & Surety Co. Apparantly other steps will be necessary in order to receive consideration for amount due us on this contract.

Your suggestion as to advisable procedure will be welcome.

Very truly yours,
Arthur Simonsen & Co.,Inc.
Arthur Simonsen
Arthur Simonsen , Pres.

cc The Aetna Casualty & Surety Co.
Updegraff Insurance , Inc.
Roy L. Houck Sons' Corp.

NOTED
FLOYD QUERY

RECEIVED
JUL 28 1970
SALEM
STATE HIGHWAY COMMISSION

AUG 6 - 1970

4540

FILED
JUL 30 1970
CLAY MYERS

Files

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

I-80N-7185) 341
1186

July 29, 1970

Sites Silver Wheel Freightlines
1321 S. E. Water Avenue
Portland, Oregon 97214

Gentlemen:

This is to acknowledge receipt of your letter of July 20, 1970, and attached statement informing us that Stach Construction Company owes you $295.73 for freight.

This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial St. S. E., Salem, furnished the performance bond on this contract. We will advise them of the receipt of your claim letter, and we will also forward it to the Secretary of State for filing.

Please advise us when your claim has been paid.

Very truly yours,

NOTED ON CARD
8-3-70 des

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.
State Highway Commission
Hon. Clay Myers - Please acknowledge receipt of this claim on the enclosed copy of this letter.

RECEIVED
JUL 31 1970
OREGON
STATE HIGHWAY COMMISSION

STATEMENT

SITES SILVER WHEEL FREIGHTLINES, INC.

HOME OFFICE 1321 S.E. WATER AVENUE
PORTLAND, OREGON 97214

DATE: [illegible]

TO

[illegible]
[illegible]
[illegible]

THE FOLLOWING IS A LIST OF ENCLOSED FREIGHT BILLS WHICH ARE CURRENTLY DUE. PLEASE REMIT PROMPTLY IN COMPLIANCE WITH I.C.C. RULING LIMITING EXTENSION OF CREDIT TO 7 DAYS.

PRO NUMBER	AMOUNT
[illegible]	5.75
1-[illegible]	47.98
1-[illegible]	6.00
1-[illegible]	13.25
1-[illegible]	18.19
1-[illegible]	[illegible]
1-[illegible]	30.85
1-[illegible]	[illegible]
1-[illegible]	[illegible]
1-[illegible]	5.50
1-[illegible]	16.27
1-[illegible]	37.39
	[illegible]5.73

This is the final billing
from this office

Remit to this office

[illegible]
[illegible]
[illegible]

TO INSURE PROPER CREDIT TO YOUR ACCOUNT, PLEASE RETURN ONE COPY OF THIS STATEMENT OR A COPY OF EACH FREIGHT BILL BEING PAID ALONG WITH YOUR REMITTANCE.

PAY LAST AMOUNT IN THIS COLUMN

THE LINE OF FRIENDLY SERVICE

GEORGE BROWNING, JR., PRESIDENT

SITES SILVER WHEEL FREIGHTLINES

HOME OFFICE: 1321 S.E. WATER AVENUE • PORTLAND, OREGON 97214

P.O. Box 724
Ontario, Oregon 97914
July 20, 1970

Mr. Floyd Query, Secretary
State Highway Building
Salem, Oregon 97310

Dear Mr. Query:

As per our phone conversation regarding delinquent freight bill payments from Stack Construction Company, I am enclosing a copy of the last statement sent from this office. The unpaid freight bills involved extend from November 10, 1969 to March 26, 1970 and are all against the Lime bridge job.

I talked this matter over with Mr. Henry Stack about a month before this job was completed and he assured me that these bills would be taken care of in the near future. However, since that time he has repeatedly ignored billing from this office.

In view of the above, I am placing a claim for freight services performed as per attached statement.

Sincerely yours

John J. Dixon, Mgr.

NOTED
FLOYD QUERY

RECEIVED
[illegible]
[illegible] OREGON

Cec ✓

DAILY OVERNIGHT SERVICE TO EASTERN OREGON, WILLAMETTE VALLEY AND COASTAL POINTS

RECEIVED
JUL 23 1970

FOR FILING

I-80N-7(25)341
7185

July 24, 1970

Banta, Silven & Young
1950 Third Street
Baker, Oregon 97814

Attention: Thomas F. Young

Gentlemen:

Contract 7185 awarded to Roy L. Houck Sons' Corporation for work on the Lime Section of the Old Oregon Trail was accepted by the Highway Commission July 3, 1970.

According to our records a claim from Durablock Company in the amount of $2,973.10 was filed in our office April 13, 1970, and with the Secretary of State on April 28, 1970. The claim has been filed well within the six months limit which begins with the date of acceptance by the Commission.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

FQ:cr

LAW OFFICES
BANTA, SILVEN & YOUNG
1950 THIRD STREET
BAKER, OREGON 97814
TELEPHONE 523-4442

HAROLD BANTA
DAVID C. SILVEN
THOMAS F. YOUNG
GARY L. MARLETTE

NICHOLS & HALLOCK
1919-1922
NICHOLS, HALLOCK & DONALD
1923-1929
HALLOCK, DONALD & BANTA
1930-1945
HALLOCK, DONALD, BANTA & SILVEN
1946-1950
HALLOCK, BANTA, SILVEN & HORTON
1951-1954
BANTA, SILVEN & HORTON
1955-1959
BANTA, SILVEN, HORTON & YOUNG
1960-1962

July 21st, 1970

Mr. Floyd Query, Secretary
Oregon State Highway Commission
Highway Building
Salem, Oregon 97310

Re: Roy L. Houck Sons-Corporation
Durablock Company
Baker, Oregon Material Lien
Lime Section Old Oregon Trail Highway

Dear Mr. Query:

Will you please advise if the Commission has accepted the work of the contractor on the Lime Section. We are concerned about a material lien of our client Durablock Company for material furnished Stach Construction Company for the job.

The Company has heard absolutely nothing for several weeks and time is now of the essence.

In addition to the foregoing request any further information you may have will be appreciated.

Very truly yours,

TFY:bb

cc - Durablock Company
695 Campbell St.,
Baker, Oregon

RECEIVED
[illegible]
[illegible]
STATE HIGHWAY COMMISSION

RECEIVED
JUL 20 1970
FOR FILING

I-80N-7(25)3-11
7185

July 17, 1970

The Aetna Casualty and Surety Co.
Bond Department
1201 S. W. 12th
Portland, Oregon 97205

Gentlemen:

A post-final payment for $413.66 will be made to Ray L. Houck Sons' Corporation on Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County as soon as the warrant is prepared.

The total amount paid on this contract will be $3,456,709.65 including the post-final payment. Of the total $66,494.10 is for force account. We are retaining $60,000 to cover railroad costs chargeable to the contractor.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By
C. W. Hand, Assistant Secretary

fm

cc Ray L. Houck Sons, Corp.
P.O. Box 7301
Salem, Oregon 97308

Updegraff Insurance, Inc.
776 Commercial St., SE
Salem, Oregon 97301

Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Kerr
H. S. Coulter

RECEIVED
JUL 20 1970

FOR FILING

I-80N-1(35)

7185

15 July 1970

Roy Houck Sons' Corporation
1158 Chemeketa St. N. E.
P.O. Box 671
Salem, Oregon 97308

Attention: Mr. A. B. Smith

Gentlemen:

Replying to your letter of 8 July, I have checked and re-checked all of the invoices involved and have also checked and re-checked all credit memos and payments made by you.

I am enclosing for your perusal a complete spread sheet showing each and every invoice, credit memos applied, checks received and interest on old account, which was applied out of your payments. I still come up with the balance due in amount $1487.78 plus the interest up to and including 28 February, in amount $78.45.

We note that you have included in payments, your check in amount $1213.01 which was returned to you via certified mail and received at your office on 28 April. Also you failed to take into consideration the interest charge on these old invoices.

I am quite sure that upon checking, you will find this completely in order in all respects.

Yours very truly,

SPOKANE CULVERT AND FABRICATING COMPANY

Carolyn M. Carr,
CREDIT MANAGER

NOTED
FLOYD QUERY

CMC:c
Encl:
cc: Aetna
Floyd Query- Oregon State Highway Division

RECEIVED
JUL 17 1970
OREGON
STATE HIGHWAY COMMISSION

COPY

NOTED
C. W. HEAD

Date	INVOICE #	AMT.	Credit Memos Applied		Interest Due
10/31/68	17528	898.56			
11/25/68	17626	2225.30			
11/25/68	17633	859.98			
11/25/68	17627	1977.60			
11/25/68	17632	76.58			
12/9/68	17719	197.76			
12/9/68	17718	86.40			
12/9/68	17717	214.18			
12/9/68	17720	240.68			
12/9/68	17724	245.88			
12/19/68	17723	1748.48			
3/24/69	17785	163.92		82.30	
3/24/69	17787	1092.80			
✓	17842	87.42			
✓	17841	110.05			
✓	17843	396.30			
✓	17840	120.17			
3/26/69	17931	204.90			
3/31/69	17839A	79.04		4.56	
3/31/69	17898A	72.96			
[illegible]/11/69	17963	4.56			
4/11/69	17962	4.56	#358	4.56	
6/11/69	18290	18.24	# 367	18.24	
6/11/69	18289	374.00			
6/11/69	18291	170.12			
6/11/69	18287	71.43			
6/11/69	18292	101.69			
6/11/69	18288	150.84	#358 #567	1.71 15.83	
5/18/69	18397	4.20	#358	4.20	
6/20/69	18457	121.10			
				Interest	279.33

	Memos Applied	Interest Due	Date Paid	-	Check's Rec'd	Bal. Due
			1-22-69			
			1-22-69			
			1-22-69			
			1-22-69			
			1-22-69		6038.02	
			7-22-69			
			7-22-69			
			7-22-69			
			7-22-69			
			7-22-69			
			7-22-69		2833.38	
	82.30		11/12/69			
			✓			
			✓			
			✓			
			✓			
			✓			
			✓			
	4.56		✓			
			✓			
			✓			
8	4.56					
67	18.24					
			✓			
			✓			
			✓			
			✓			
8	1.71					
7	15.83		✓			
8	4.20					
			✓		3496.23	
	Interest	- $279.33 -	- deducted from ck -			

Date	INVOICE #	AMT	Credit Memos applied		Bal Interest Due		Dat
7-10-69	18536	179.74	# 367	118.73	9.78	x	
7-24-69	18673	50.49			3.08	^	
8/30-69	18787	1146.90			56.58	x	
9-29-69	18995	229.38			9.01	^	
Total All Invoices		$ 13,826.21	Total Cr.	250.13	78.45		

13,826.21
− 250.13 Credits
− 12,088.30 - applied to Principal

Bal 1487.78
+ Int Due 78.45

Total Bal Due 1566.23

12,367.63
− 279.33 - Interest Deducted from
12,088.30.

Please Note - Hauck Check In Amt. 1213.01 -
Not Payment in Full.

Credit	Loans applied	Bal Interest Due		Date Paid	Ck. Rec'd	Bal Due	
#367	118.73	9.78	x			61.01	x
		3.08	^			50.49	x
		56.58	x			1146.90	^
		9.01	^			229.38	x
1Cr.	250.13	78.45			12,367.63	1487.78	

12,367.63
− 279.33 - Interest Deducted from Payments.
12,088.30.

- Hauck Check In Amt. 1213.01 - Not accepted
Not Payment in Full.

RECEIVED
JUL 1[illegible] 1970
FOR FILING

I-80N-7(25)341
7185

July 10, 1970

King, Miller, Anderson
Nash & Yerke
Attorneys & Counselors at Law
900 S.W. Fifth Avenue
Portland, Oregon 97204

Gentlemen:

Thank you for your letter of July 9 advising us that the claim of Oregon Portland Cement Company on the Roy L. Houck Sons' Corporation contract has now been paid in full. This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

Our records indicate that the Oregon Portland Cement Company claim was in the amount of $143,760.50 which was filed with the Secretary of State on January 19, 1970, and was assigned his file no. 4448. This information will be noted in our records and we will advise the surety and the principal contractor of the receipt of your letter.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:sj
cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.
bc Commission

NOTED ON CARD
sj 7-10-70

KING, MILLER, ANDERSON, NASH & YERKE
ATTORNEYS AND COUNSELORS AT LAW
900 S.W. FIFTH AVENUE
PORTLAND, OREGON 97204

TELEPHONE
AREA CODE 503
224-5858

CABLE ADDRESS
"KINGMAR"

RALPH H. KING
ROBERT S. MILLER
GRANT T. ANDERSON
FRANK E. NASH
FREDRIC A. YERKE
NORMAN J. WIENER
ORVAL O. HAGER
JOHN W. HILL
CURTIS W. CUTSFORTH
MAURICE O. GEORGES
MARK C. McCLANAHAN
CLIFFORD N. CARLSEN, JR.
DONALD R. HOLMAN
KENNETH W. HERGENHAN
WILLIAM B. CROW
HARVEY C. BARRAGAR
GERALD A. FROEBE

CONRAD L. MOORE
DEAN D. DECHAINE
WILLIAM N. STILES
R. ALAN WIGHT
DAVID W. MORTHLAND
DOUGLAS M. RAGEN
J. FRANKLIN CABLE
RALPH M. DAVISSON
RICHARD A. EDWARDS
DAVID M. MUNRO
JOHN R. BAKKENSEN
T. LEONARD O'BYRNE
ROBERT L. HASKINS
G. TODD NORVELL
MARTIN B. VIDGOFF

July 9, 1970

Mr. Floyd Query, Secretary
Oregon State Highway Division
Highway Building
Salem, Oregon 97310

Subject: Oregon Portland Cement Company--
Roy L. Houck Sons Corporation

Dear Mr. Query:

This will advise you that the claim of Oregon Portland Cement Company on the subject project has now been paid in full.

Very truly yours,

William N. Stiles
For KING, MILLER, ANDERSON,
NASH & YERKE

NOTED
FLOYD QUERY

[illegible]

RECEIVED
JUL 6 - 1970
FOR FILING

I-80N-7(25)
7185

July 3, 1970

Oregon State Highway Commission

Gentlemen:

Work was completed April 21, 1970, on Contract No. 7185. The contract was with Roy L. Houck Sons' Corporation and was for grading, paving, structure and signing on the Lime Section of the Old Oregon Trail Highway in Baker County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective July 3, 1970, and that you concur in this procedure at the Commission meeting on July 7.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

R. L. Porter
State Highway Engineer

cc Floyd Query
Tom Edwards
A. E. Johnson
F. B. Klaboe
Victor D. Wolfe
V. E. Skoog
F. D. Morgan
I. D. Merchant
L. H. Young
H. S. Coulter

srb fn

RECEIVED
JUL 8 - 1970

FOR FILING

I-80N-7(25)341
7185

July 3, 1970

King, Miller, Anderson,
Nash & Yerke
900 S. W. Fifth Avenue
Portland, Oregon 97204

Attn: Mr. William N. Stiles

Gentlemen:

Thank you for your check in the amount of $17.10 in payment for the copy of Contract No. 7185 with Roy L. Houck Sons' Corporation.

The Labor and Materials Bond furnished by the Aetna Company should have been attached to the copy of the contract which we sent to you. In the event that it might have been overlooked, we have attached photocopies of the contract and bond pages for this contract.

Thank you also for advising us that the Oregon Portland Cement Company has received $35,000 payment on its claim.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

FQ:ses
Attachment

cc
Roy L. Houck Sons' Corp.
P. O. Box 7381
Salem, Oregon 97308

Updegraff Insurance, Inc.
776 Commercial St. S. E.
Salem, Oregon 97301

The Aetna Casualty & Surety Co.
Bond Department
1201 S. W. 12th Avenue
Portland, Oregon 97205

NOTED ON CARD
7-6-70

KING, MILLER, ANDERSON, NASH & YERKE
ATTORNEYS AND COUNSELORS AT LAW
900 S. W. FIFTH AVENUE
PORTLAND, OREGON 97204

RALPH H KING
ROBERT S. MILLER
GRANT T. ANDERSON
FRANK E. NASH
FREDRIC A. YERKE
NORMAN J. WIENER
ORVAL O. HAGER
JOHN W. HILL
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KENNETH W. HERGENHAN
WILLIAM B. CROW
HARVEY C. BARRAGAR
GERALD A. FROEBE

TELEPHONE
AREA CODE 503
[illegible]

CABLE ADDRESS
"KINGMAR"

CONRAD L. MOORE
DEAN D. DECHAINE
WILLIAM N. STILES
R. ALAN WIGHT
DAVID W. MORTHLAND
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DAVID M. MUNRO
JOHN R. BAKKENSEN
T. LEONARD O'BYRNE
ROBERT L. HASKINS
G. TODD NORVELL
MARTIN B. VIDGOFF

June 22, 1970

Mr. Floyd Query, Secretary
Oregon State Highway Division
Highway Building
Salem, Oregon 97310

Subject: Oregon Portland Cement Company--
Roy L. Houck Sons Corporation

Dear Mr. Query:

Check sent to →
Acct. 7/1/70
C.H.

Enclosed pursuant to your letter of June 18, 1970, is our check in the amount of $17.10.

Our letter of June 17, 1970, also requested that we receive a copy of the bond placed on the job by the Aetna Casualty and Surety Company. The bond we have in mind is the payment bond. We would appreciate receiving a copy of that bond.

On or about June 18, 1970, Oregon Portland Cement Company received another $35,000 payment on its claim.

Very truly yours,

William N. Stiles
For KING, MILLER, ANDERSON,
NASH & YERKE

NOTED
[illegible]

RECEIVED
[illegible] 1970
OREGON
STATE HIGHWAY COMMISSION

KING, MILLER, ANDERSON, NASH & YERKE
ATTORNEYS AND COUNSELORS AT LAW
900 S. W. FIFTH AVENUE
PORTLAND, OREGON 97204

RALPH H. KING
ROBERT S. MILLER
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JOHN W. HILL
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HARVEY C. BARRAGAR
GERALD A. FROEBE

TELEPHONE
AREA CODE 503
224-5858

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JOHN R. BAKKENSEN
T. LEONARD O'BYRNE
ROBERT L. HASKINS
G. TODD NORVELL
MARTIN B. VIDGOFF

June 22, 1970

Mr. Floyd Query, Secretary
Oregon State Highway Division
Highway Building
Salem, Oregon 97310

Subject: Oregon Portland Cement Company--
Roy L. Houck Sons Corporation

Dear Mr. Query:

Check sent to →
Acct. 7/1/70
C.H.

Enclosed pursuant to your letter of June 18, 1970, is our check in the amount of $17.10.

Our letter of June 17, 1970, also requested that we receive a copy of the bond placed on the job by the Aetna Casualty and Surety Company. The bond we have in mind is the payment bond. We would appreciate receiving a copy of that bond.

On or about June 18, 1970, Oregon Portland Cement Company received another $35,000 payment on its claim.

Very truly yours,

William N. Stiles

For KING, MILLER, ANDERSON,
NASH & YERKE

NOTED
C. W. HEAD

RECEIVED
JUN [illegible] 1970
OREGON
STATE HIGHWAY COMMISSION

OREGON STATE HIGHWAY DEPARTMENT

Form A-191—(7-65)
SP*F84

Request for Outside Billing

(Or Advice of Cash Transaction)

Address invoice to: King, Miller, Anderson, Nash & Yerbe
900 S.W. 5th Avenue
Portland, Oregon 97204
Attention of

Request No. (assigned by staff engineer or head of division) Sec. 534
Date July 1, 1970
Payer's Order No. (if any)
Department Order No. (if any) (Number of "Order to Render Service")

Description and Authority: (Describe the service rendered, stating kind of service, location, etc. Also refer to agreements, letters and orders by which payer authorized the service.)

Xerox copy of Contract No. 7185

Itemized Statement:

Quantity	Unit	Description	Unit Price	Amount
	171 pages	1 xerox copy of Contract No. 7185 (Check No. 1167 from King, Miller, Anderson, Nash & Yerbe in amt. of $17.10 attached.)	.10 per page	17.10

If payer has made payment for this service, indicate the amount of payment. $17.10

If payer has made a deposit with the Department to guarantee payment, indicate the amount of the deposit. $

Is this a partial or final request for billing? Final

If there have been any previous requests for billing in connection with this same service, indicate the total amount of all previous requests. $

Give the number of the last previous request in connection with this same service.

Credit distribution:
5003-900

Submitted by:

Approved:
Division Engineer

Approved: Heal
~~Department Head or Staff Engineer~~

Instructions: The original and duplicate copies shall be forwarded through the division engineer to the staff engineer or division head. Staff engineer or division head will forward original copy to the Accounting Division. Additional copies may be prepared for and retained by the division office and other field offices concerned. If the request is to be accompanied by a payment, an additional copy shall be submitted for the use of the Accounting Division.

RECEIVED
JUL 6 - 1970

FOR FILING

I 80N-7/3

7185

July 3, 1970

The Aetna Casualty and Surety Company
1201 S. W. 12th
Portland, Oregon 97205

Gentlemen:

Contract No. 7185 awarded to Roy L. Houck Sons' Corporation for grading, paving, structures, and signing on the Lime Section of the Old Oregon Trail in Baker County was completed on April 21, 1970, and accepted by the Highway Commission on July 3, 1970.

Final payment in the amount of $43,779.35 will be released to the contractor after July 10, 1970. The total contract amount is $3,456,295.99 including $66,080.44 for work performed under force account. We are retaining $60,000 to cover estimated Railroad costs payable by the contractor.

You have been advised previously of claims filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fkn
cc Roy L. Houck Sons' Corporation
P. O. Box 671
Salem, Oregon 97308

Updegraff Insurance, Inc.
776 Commercial St., SE
Salem, Oregon 97301

Frank Morgan
Ivan Merchant

V. E. Skoog
Attn: John Herr

N. S. Coulter

I-80N-7(25)341

Form E-205--521

7185

STATE COPY

G-8

APPROVED EFFECTIVE DATE 2-25-[illegible]
Contingent upon modification of project agreement if additional funds are required
BY G. [illegible]
Engineering Coordinator

OREGON STATE HIGHWAY DEPARTMENT

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

DATE 7-13-70

U. S. BUREAU OF PUBLIC ROADS

Project Name: Lime
~~Date July 1 1970~~

Highway: Old Oregon Trail
Contract No. 7185

County: Baker
Prefix: 601-1065

Contractor: Roy L. Houck Sons' Corporation
F. A. Project No. I-80N-7(25)341

Address: P. O. Box 671, Salem, Oregon 97308
Order No. 3 (Supplemental)

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done:

Pioneer and slope for slide correction, perform required clearing and pipe springwater out of work area.

NOTED
A. E. JOHNSON

Location by station numbers:

700+00 to 702+50
724+50 to 725+50

Estimate of quantities and cost:

Original E.W.O. No. 3 = $15,719.25

Supplemental E.W.O. No. 3 = $33,695.09 Total

NOTED
TOM EDWARDS

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")

In accordance with Standard Specifications Section 102-3.16.

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization . . . . $4,178,926.1[illegible]

Present estimate of project cost, including $ ~~33,695.09~~ 17,975.84 for work under this order $4,001,177

Expected under-run ~~over-run~~ amount . . . . . . $177,749.1[illegible]

Expected under-run ~~over-run~~ per cent 4.25

Space to right of this line is for use of Salem Office

Submitted by: E. S. Thompson
E. S. Thompson
Resident Engineer

Approval Recommended: [illegible]
Asst. Division Engineer

Approval Recommended: [illegible]
Construction Engineer or Bridge Engineer

Approved: [illegible]
Deputy State Highway Engineer, Assistant State Highway Engineer or Office Engineer
Const.

SP*23577-734

I-80N-1(25)31

7185

Form E-203-5M

STATE COPY 6-C

APPROVED EFFECTIVE DATE 10-14-6[illegible]
Contingent upon modification of project agreement if additional funds are required
BY G. Green
TITLE Engineering Coordinator
DATE 7-13-70

U. S. BUREAU OF PUBLIC ROADS

OREGON STATE HIGHWAY DEPARTMENT

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

Project Name Line Section

Highway Old Oregon Trail

County Baker

Contractor Roy L. Houck Sons' Corporation

Address P. O. Box 671, Salem, Oregon 97308

Date , 1970

Contract No. 7185

Prefix 601-1065

F. A. Project No. I-80N-2(25)341

Order No. 1 (Supplemental)

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done:

State share of flagging cost.

Location by station numbers:

Throughout the limits of the project.

Estimate of quantities and cost:

State share 60% of total = $17,329.61

Original E.W.O. No. 1 = 5,000.00

NOTED
A. E. JOHNSON

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")

State participation is a contract obligation.

NOTED
TOM EDWARDS

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization	$4,178,926.12	
Present estimate of project cost, including $17,329.61 for work under this order	$4,001,177	
Expected under-run ~~over-run~~ amount	$177,749.12	
Expected under-run ~~over-run~~ per cent	4.25	

Space to right of this line is for use of Salem Office

Submitted by: E. S. Thompson
E. S. Thompson
Resident Engineer

Approval Recommended:
Asst. Division Engineer

Approval Recommended:
Construction Engineer or Bridge Engineer

Approved:
Deputy State Highway Engineer, Assistant State Highway Engineer or Office Engineer.
Const.

C.K.

SP*23577-734

I-80N-7(25) Lime Section, of Old Oregon 1968
341 Trail, SE of Baker (Grad., pav.,
#7185 strut. & sign.) Folder #2

U&A 3754
RR 665

RECEIVED
JUN 29 1970

FOR FILING

I-80N-7(25)341
7185

June 26, 1970

Baker Valley Enterprises, Inc.
P. O. Box 169
Baker, Oregon 97814

Attn: Mr. Richard Mark
President

Gentlemen:

Thank you for your letter of June 23 advising us that you have not received a check in the amount of $456 from Stach Construction Company. This appears to be in reference to the Roy L. Houck Sons', Inc., Contract No. 7185 for grading, paving, structures, and signing on the Lime Section of the Old Oregon Trail in Baker County.

Our records indicate that your claim in the amount of $456 due from Stach Construction Company and $750 due from Roy L. Houck Sons', Inc., was filed with the Secretary of State on March 24, 1970, and was assigned his File No. 4484.

We will make the notation in our records that you have received $750 from Roy L. Houck Sons', Inc., and that you still have an amount due of $456 from Stach Construction Company. We will also inform the surety, the agent, and the principal contractor of receipt of your letter.

Very truly yours,

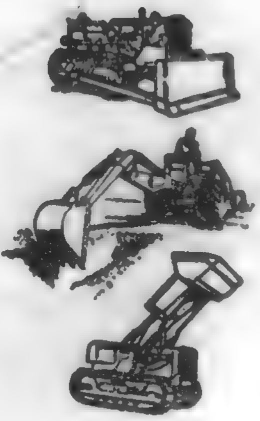
Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:ses

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation

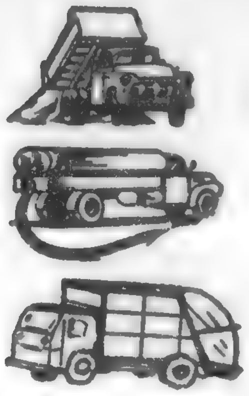
NOTED ON CARD
June 26, 1970 ses

P.S. Our records show Stach was a sub on Contract 7185. All claims filed with us are considered against the principal Contractor & he and his bond are responsible.
F.Q.



Baker Valley Enterprises Inc.

BAKER, OREGON 97814



June 23, 1970

Floyd Query, Secretary
Oregon State Highway Commission
Highway Building
Salem, Oregon 97310

Re: Stach Construction Co.
Lime Section, Chemical Toilet Rental
Project #601-1065

#7185

Dear Mr. Query:

In checking our accounts receivable we find that we have never received a check in the amount of $456.00 owed our firm by Stach Construction Company.

We referred back to our earlier correspondence with your office and in reviewing your letter dated April 9th, we get the impression that it was your understanding the two amounts of $456.00 and $750.00 were owed only by Houck Sons Inc. This is not the case and you perhaps should refer back to our first communication with your office (dated 3/17/70) which showed $750.00 was due at that time from R. L. Houck Sons, but now paid in full, and the separate amount of $456.00 owed by Stach Construction Company from Grants Pass.

As stated above we received payment only from the one contractor and perhaps it may have been a misunderstanding in your office in thinking that we had been paid in full by both parties involved.

We would appreciate your comment on this mater.

Very truly yours,

BAKER VALLEY ENTERPRISES, Inc.

Richard Mark

Richard Mark,
President

NOTED
FLOYD QUERY

RECEIVED
[illegible] 1970
STATE HIGHWAY COMMISSION

RM:kr

Specialists in Solid and Liquid Waste Disposal . . . Sanitary Land Fills . . . Earth Moving

NOTED
C W HEAD

RECEIVED
JUN 26 1970
FOR FILING

1859

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

I-80N-1(3-)341
7185

June 25, 1970

Roy L. Houck Sons' Corporation
P. O. Box 671
Salem, Oregon 97308

Gentlemen:

Final payment on Contract 7185 has been withheld pending receipt of the Union Pacific Railroad Company's final bill.

Invoice #149326 has been received. Incomplete haul road charges are $2,040.39 and incomplete flagging and protection costs are $62,990.10, which is $27,990.10 over the $35,000.00 to be paid by the State.

In order to expedite your final voucher, we intend to withhold $60,000.00 as your total estimated protection and haul road costs, and release the balance. If the final railroad costs exceed the amount retained, we will bill you for the excess. If the railroad costs are less than the amount retained, we will release the balance.

If this procedure is agreeable to your company, please sign and return the attached letter and voucher. A copy of this letter is enclosed for your records.

Very truly yours,

V. E. Skoog

V. E. Skoog
Controller

VES:JJ:ms
Attachments

Approved:________________________
Authorized Representative

RECEIVED
JUN 25 1970
FOR FILING

I-80N-7(25)341
7185

June 24, 1970

Mr. Winston H. Churchill
P. O. Box 1253
Boise, Idaho 83701

Dear Mr. Churchill:

Your letter of June 23 mentions a claim that you have against Page Paving Company on Contract No. 7185 awarded to Roy L. Houck Sons' Corporation. Concerning the time within which a claim may be filed with us, we have for years, operated under the provisions of ORS 279.526.

As a routine matter, when we receive inquiries about filing a claim we advise that the claim must be filed with us within six months after the contract has been accepted by the Highway Commission. So far, none of the contractors or their sureties have questioned this time within which to file. Sureties, however, on several occasions have declined to honor claims filed later than the six months period.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

FQ:sj

WALLIS & CHURCHILL
ATTORNEYS AT LAW
POST OFFICE BOX 1253
BOISE, IDAHO 83701

RANDALL WALLIS
WINSTON H. CHURCHILL

404 IDAHO BUILDING
AREA CODE 208
TELEPHONE 342-5693

June 23, 1970

Floyd Query, Secretary
Oregon State Highway Commission
Highway Building
Salem, Oregon 97310

Dear Mr. Query:

My client, Blackline Asphalt Sales, has asked me to hold up on filing against Page Paving Co. in connection with the Roy L. Houck Sons' Corporation Contract No. 7185. In my review of the Oregon law, it appears that when we supplied material to a subcontractor, we had only ninety days from the time we last supplied material to notify the contractor that we have not been paid, in order to have an action against the contractor's bond. I was reading Oregon Code Section 279.526.

Is the Contract No. 7185 covered by the section of Oregon law that I have quoted to you, or is there another section of the law that I should be following in the event we are not paid by Page Paving?

Any help you can give me on this will be very much appreciated.

Very truly yours,

Winston Churchill

Winston H. Churchill

WHC:eh

RECEIVED
JUN 24 1970
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
JUN 29 1970
FOR FILING

I-80N-7(25)341
7185

Stevenson Electric
P. O. Box 27
Huntington, Oregon 97907
June 23, 1970

Stach Construction Company
P. O. Box 730
Grants Pass, Oregon 97526

RE: Lime Section
OsHD Contract 7185

Gentlemen:

In regard to your letter of June 16, 1970, I didn't know there was to be a revised statement. The bill you refer to was due in June of 1969. There was no material returned to me, all material I got I had to remove, disassemble, and haul back to Huntington to my shop.

If you wish to pay interest for the past year, plus cost of removing said material, I will give you a revised statement.

It was my understanding with the foreman on the job at Lime, that what material could be salvaged was to be used as interest on past due bills, "if" I would remove it.

Sincerely

Elmer L. Stevenson
Stevenson Electric

Copy: State Highway Department

Cc ✓

NOTED
FLOYD QUERY

RECEIVED
JUN 25 1970
OREGON
STATE HIGHWAY COMMISSION

June 16, 1970

Stevenson Electric Company
Box 27
Huntington, Oregon 97907

RE: Lime Section
OSHD Contract 7185

Gentlemen:

Final payment on your account has been held up pending a revised statement reflecting credits for materials returned to you from our above named job at Lime.

Please submit a revised statement showing the materials returned and credit amounts given.

Very truly yours,

STACK CONSTRUCTION CO., INC.

George T. Francisco, Gen. Mgr.

GTF:bcs

RECEIVED
JUN 25 1970
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
JUN 19 1970
FOR FILING

I-80N-7([illegible])[illegible]
7185

June 18, 1970

Benson's Glass and Paint
P. O. Box 248
Ontario, Oregon 97914

Gentlemen:

Thank you for your letter of June 16 informing us that your bill against Roy L. Houck Sons' Corporation was paid in full in the amount of $189.44 on May 22, 1970.

This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

This notation will be made in our records and we will advise the surety and the contractor of the receipt of your letter.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc Roy L. Houck Sons' Corporation
The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.

Commissioners

CWH:fkn

NOTED ON CARD
6-18-70
fran

TO:
OREGON STATE HIGHWAY DIVISION
SALEM, OREGON

FROM: **BENSON'S Glass & Paint**
510 East Idaho Ave. P.O. Box 248
Phone (Area 503) 889-8604
ONTARIO, OREGON 97914

MESSAGE

SUBJECT: Attention: Floyd Query

Date June 16-70

Dear Mr. Query:
This is to inform you that our bill against the Roy L. Houck Son's Corp. was paid in full (189.44) on May 22-70. We put in a claim against them to your office in January.
Thank you.

Sincerely,
G.E. Brittingham

By

REPLY

TO:

Date

RECEIVED
JUN 18 1970
OREGON
STATE HIGHWAY COMMISSION

NOTED
C. W. HEAD

NOTED
FLOYD QUERY

By

R-87

RECEIVER — RETAIN THIS COPY FOR YOUR RECORDS

RECEIVED
JUN 18 1970
FOR FILING

I-80N 7(25)341
7185

June 18, 1970

Kings, Miller, Anderson,
  Nash & Yerke
900 S.W. Fifth Avenue
Portland, Oregon 97204

Attention: William H. Stiles

Gentlemen:

As requested in your letter of June 17, we are enclosing a certified copy of Contract No. 7185 on the Lime Section of the Old Oregon Trail in Baker County.

Since we did not have an extra copy of this contract, it was necessary to xerox a copy for which we charge 10 cents per sheet. Your remittance in the amount of $17.10 will be appreciated.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Enclosure

KING, MILLER, ANDERSON, NASH & YERKE
ATTORNEYS AND COUNSELORS AT LAW
900 S. W. FIFTH AVENUE
PORTLAND, OREGON 97204

RALPH H. KING
ROBERT S. MILLER
GRANT T. ANDERSON
FRANK E. NASH
FREDRIC A. YERKE
NORMAN J. WIENER
ORVAL O. HAGER
JOHN W. HILL
CURTIS W. CUTSFORTH
MAURICE O. GEORGES
MARK C. McCLANAHAN
CLIFFORD N. CARLSEN, JR.
DONALD R. HOLMAN
KENNETH W. HERGENHAN
WILLIAM B. CROW
HARVEY C. BARRAGAR
GERALD A. FROEBE

TELEPHONE
AREA CODE 503
224-5858

CABLE ADDRESS
"KINGMAR"

CONRAD L. MOORE
DEAN D. DECHAINE
WILLIAM N. STILES
R. ALAN WIGHT
DAVID W. MORTHLAND
DOUGLAS M. RAGEN
J. FRANKLIN CABLE
RALPH M. DAVISSON
RICHARD A. EDWARDS
DAVID M. MUNRO
JOHN R. BAKKENSEN
T. LEONARD O'BYRNE
ROBERT L. HASKINS
G. TODD NORVELL
MARTIN B. VIDGOFF

June 17, 1970

The Honorable Floyd Query
Secretary
Oregon State Highway Commission
Highway Building
Salem, Oregon 97310

Subject: State Highway Contract
No. 7185, Old Oregon Trail
Lime Section

Dear Sir:

We represent Oregon Portland Cement Company which has previously submitted to you its notice of claim on the subject job. Enclosed is an affidavit prepared pursuant to ORS 279.515. Please send to us, pursuant to ORS 279.512, a certified copy of the contract and bond on the subject job.

Very truly yours,

William N. Stiles
For KING, MILLER, ANDERSON,
NASH & YERKE

Carol
please prepare
Copy of Contract

RECEIVED
[illegible]
STATE HIGHWAY COMMISSION

NOTED
FLOYD QUERY

STATE OF OREGON }
COUNTY OF MULTNOMAH } SS

AFFIDAVIT

I, EMERY N. SUNDBERG, being first duly sworn, depose and say that:

1. I am secretary of Oregon Portland Cement Company which has filed a notice of claim on State Highway Contract No. 7185, Old Oregon Trail, Lime Section, in the amount of $143,760.50 for bulk cement furnished by Oregon Portland Cement Company to Roy L. Houck Sons Corporation against a bond on which the Aetna Casualty and Surety Company is surety.

2. Oregon Portland Cement Company has provided bulk cement for the prosecution of the work in State Highway Contract No. 7185, Old Oregon Trail, Lime Section.

3. The aforesaid claim of $143,760.50 has not been paid except that the sum of $35,000 was paid thereon on or about April 7, 1970.

4. I make this affidavit in accordance with ORS 279.515 and in support of an application of Messrs. King, Miller, Anderson, Nash & Yerke to receive certified copies of the contract and bond on State Highway Contract No. 7185.

Emery N. Sundberg

SUBSCRIBED and sworn to before me this 16 day of June, 1970.

RECEIVED
[illegible]
OREGON
STATE HIGHWAY COMMISSION

Jack L. Sloan
Notary Public for Oregon
My commission expires:
[illegible]

RECEIVED
JUN 18 1970
FOR FILING

I-80N-7(25) 3-11

7185

June 17, 1970

Idaho Power Company
21 N. 8th
Payette, Idaho

Attention: J. B. Landon
Div. Acctg. Mgr.

Gentlemen:

Thank you for your letter of June 8 notifying us that you have received a check in the amount of $244.90 in full payment of your claim which was filed against Roy L. Houck Sons' Corporation. This appears to be in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

You state that your claim against Stach Construction Company in the amount of $47.20 is still due against the final settlement on this contract. This information is being noted in our records and we will inform the surety and the prime contractor of the receipt of your letter.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:sj
cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.
bc Commission

NOTED ON CARD
6-17-70

SNAKE RIVER
HYDRO POWER

IDAHO POWER COMPANY

21 N. 8th
Payette, Idaho
June 8, 1970

Oregon State Highway Commission
Floyd Query, Secretary
State Highway Building
Salem, Oregon 97310

Re: Contract 7185 - Lime Section

Dear Sir:

This letter is to notify you that we received a check in the amount of $244.90 in full payment of our claim against Roy L. Houck Sons' Corporation. This leaves only our claim against the Stach Construction Company in the amount of $47.20 still due against the final settlement of contract #7185.

Very truly yours,

JBLandon

J. B. Landon
Div. Acctg. Mgr.

JBL:id

cc: L. H. Smith
J. P. O'Connor

NOTED
FLOYD QUERY

NOTED
C. W. Hean

RECEIVED
[illegible]
SALEM
STATE HIGHWAY COMMISSION

RECEIVED
JUN 18 1970

FOR FILING

I-80N-7(2[illegible])5[illegible]
7185

June 17, 1970

Western Bearings, Inc.
P. O. Box 1007
Boise, Idaho 83701

Attention: J. D. Jesseph
Vice President

Gentlemen:

Thank you for your letter of June 15 informing us that you have received a check for $100.64 from Roy L. Houck Sons' Corporation for payment of their account in full. This appears to be in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

This information is being noted in our records and we will advise the surety and the contractor of the receipt of your letter.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:sj
cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.
bc Commission

NOTED ON CARD
sj 6-17-70

WESTERN BEARINGS INC.

520 FRONT STREET • BOISE, IDAHO 83701 • P.O. BOX 1007 • DIAL 342-6583

THE BEARING MAN

Idaho
Burley
☆
Idaho Falls
☆
Pocatello
☆
Twin Falls

Oregon
Ontario

June 15, 1970

Mr. Floyd Query, Secretary
Oregon State Highway Commission
Highway Building
Salem, Oregon 97310

Dear Mr. Query:

On June 8, 1970, we received a check for $100.64 from Roy L. Houck & Sons' Corporation for payment of their account in full.

We appreciate your cooperation in helping to clear this past due balance.

Cordially yours,

WESTERN BEARINGS, INC.

JD Jesseph

J. D. Jesseph
Vice President

JDJ/fw

RECEIVED
JUN 16 1970
OREGON
STATE HIGHWAY COMMISSION

NOTED
C. W. HEAD

RECEIVED
JUN 22 1970
FOR FILING

Claim 4532

FILED
JUN 19 1970
CLAY MYERS
SECRETARY OF STATE

I-8011-71

7185

**OREGON STATE
HIGHWAY DIVISION**

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

June 17, 1970

Van Petten Lumber Company
89 S.E. 1 Avenue
Ontario, Oregon 97914

Gentlemen:

This is to acknowledge receipt of your letter of June 10 advising us that Stach Construction Company (Subcontractor) owes you for material in the amount of $146.52. From the description given in your letter, this appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

NOTED ON CARD
6-22-70 SR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.

bc Commission
✓ Secretary of State - Please acknowledge receipt of this claim on the enclosed copy of this letter.

[illegible]
C. W. HEAD

VAN PETTEN LUMBER COMPANY
DISTRIBUTORS OF
BUILDING MATERIALS AND FUELS

ONTARIO, OREGON

JUNE 10, 1970. 89 S.E. 1 Ave

OREGON STATE HIGHWAY DEPARTMENT,
SALEM, OREGON.

GENTLEMEN:-

WE HAVE AN ACCOUNT AGAINBT STACH CONSTRUCTION COMPANY FOR MATERIAL FURNISHED ON A SUB-CONTRACT FOR CONSTRUCTION OF A BRIDBE NEAR LIME, OREGON, TO AMOUNT OF 146.52, WHICH ACCOUNT IS CONSIDERABLY PAST DUE.

WE UNDERSTANDING THAT THE BONDING COMPANY CARRYING CONTRACTOR'S LIABILITY IS PAYING OFF DEBTS ON THIS JOB. WILL YOU PLEASE ADVISE WHOM WE SHOULD CONTACT FOR THIS PURPOSE?

THANKUNG YOU FOR YOUR CO-OPERATION IN THIS MATTER, WE ARE

SINCERELY YOURS,

VAN PETTEN LUMBER CO.

BY Paul E. Van Petten

NOTED
FLOYD QUERY

RECEIVED
JUN 11 1970
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
JUN 18 1970
FOR FILING

I-80N-7(25)341
7185

June 17, 1970

Baker Redi-Mix, Inc.
P. O. Box 372
Baker, Oregon 97814

Gentlemen:

Thank you for your letter of June 6 advising us that you have received payment in full from Roy L. Houck Sons' Corporation. This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime section of the Old Oregon Trail in Baker County.

Our records show that the claim was for rock in the amount of $4,695 which was filed with the Secretary of State on May 12, 1970. This information is being noted in our records and we will advise the surety and the principal contractor of the receipt of your letter.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:sj
cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.
bc Commission

NOTED ON CARD
6-17-70

Telephone 523-4644

BAKER REDI-MIX, Inc.
CONCRETE - SAND & GRAVEL - ASPHALT
P. O. BOX 372
BAKER, OREGON 97814

June 6, 1970

Oregon State Highway Department
Mr. Floyd Query
Secretary of the Highway Commission
Salem, Oregon 97310

Gentleman:

We received today payment in full from Roy L. Houck Sons Corporation we therefore release any claims on monies due Houck & Sons on there contract # 7185, Lime section I 80 N.

Yours very truly

Baker Redi-Mix Inc.

H Stanford
President

HS:jl

NOTED
FLOYD QUERY

NOTED
C. W. HEAD

RECEIVED
JUN 9 - 1970
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
JUN 1[illegible] 1970
FOR

UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Bureau of Public Roads
Box 300
Salem OR 97308

DATE: June 11, 1970

In reply refer to: 08-35-DA

I-80N-7(25)341

7195

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

Klaboe

Morgan w/ enc.
6-17-70

SUBJECT: Oregon Project I-80N-7(25)341
Lime Section, Old Oregon Trail Highway
State Force Order No. 15
Total Estimated Amount of the Order - $2,868.14
Federal Participation - $2,858

Reference is made to your letter dated June 5 concerning subject order.

We are approving the use of State Forces as being in the public interest in accordance with PPM 21-6.2 for the following reasons:

1. The contractor had completed the contract work and moved his equipment from the project before it was decided to do this work.

2. The State has trained men and specialized equipment to perform the work most economically.

3. The amount of the work is too small to warrant a separate contract.

Equipment rental rates will be according to a schedule that has been previously approved by this office for use on force account work.

Reimbursement is to be made on an actual cost basis. A signed copy of the order is returned herewith.

Enclosure
SFO # 15

R. KLABOE

RECEIVED
JUN 15 1970
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

Form A-1... 6M

STATE COPY

G-1P

APPROVED EFFECTIVE DATE
Contingent upon modification of pro- . agreement if additional funds are required
BY
Dist. Engineer

DATE 6-12-70
U. S. BUREAU OF PUBLIC ROADS

OREGON STATE HIGHWAY DEPARTMENT

Order for State Force Work

APPLYING TO CONTRACT PROJECTS

Order No. ~~14~~ 15

Project Name Lime Section Date May 25, 1970

Highway Old Oregon Trail Contract No. 7185 F. A. Project No. I-80N-7(25)341

County Baker Prefix 601-1065 Account No. 279-~~14~~15

Description of Work To Be Done:

Furnish and install Type 2A Guard Rail and granular dike to serve as a rock barrier.

Location by Station Numbers:

Station 702 to Station 704 Right

Estimate of Quantities and Costs:

Material - - 41 Posts at $4.50 = - - - - - - - - $184.50
41 Blocks at $1.50 = - - - - - - - - 61.50
200 lin. ft. Guard Rail at $1.05 = 210.00
1 End Piece at $3.50 = - - - - - - - 3.50
2 Anchors at $150.00 = - - - - - - - 300.00
Granular Backfill 96 C.Y. at $2.00=192.00
Subtotal $951.50

Labor - - - - $1,466.64
Equipment - - 450.00
Subtotal $1,916.64
Total----- $2,868.14

The net cost effect of this work order is a contract increase of $2,868.14.

Explanation:

Contractor's equipment and forces have moved out since this project was completed on April 21, 1970.

INSTRUCTIONS

Submit a separate order for each piece or kind of state force work to be undertaken. Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs.

Five copies of the order are to be submitted to Salem. After approval by the Assistant State Highway Engineer, one copy will be sent to the Division Engineer and one copy to the Resident Engineer.

Project authorization	$4,178,926.12
Present estimate of project cost, including $2,868.14 for work under this order	$4,051,382
Expected under-run XXXXXXX (amount)	$127,544.12
Expected under-run XXXXXXX (per cent)	3.05

Space to right of this line is for use of Salem Office

Submitted by: E S Thompson
E. S. Thompson
Resident Engineer

Approval Recommended:
Construction Engineer ~~or Bridge Engineer~~
for

Approval Recommended: Alfred ... Jr.
DWS
Division Engineer

Approved:
~~Deputy State Highway Engineer,~~
~~Assistant State Highway Engineer or~~
Construction ~~Office~~ Engineer.

~~This order does not constitute authority for expenditures until approved by the Deputy or Assistant State Highway Engineer.~~

FINAL 7(25)341
7185

FORM F-1 (REV. 12-66)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

	SECTION FINAL REPORT Lime Section	WEEK ENDING June 6, 1970
		SECTION PREFIX 601-1065
	HIGHWAY Old Oregon Trail	COUNTY Baker
NAME OF JOB Lime Section	KIND OF WORK Grading, Paving, Structure and Signing	
CONTRACTOR Roy L. Houck Sons' Corporation	CONTRACT NUMBER 7185	FEDERAL AID PROJECT NUMBER I-80N-7(25)341
DATE OF CONTRACT October 14, 1968	DATE WORK STARTED October 21, 1968	ESTIMATED COMPLETION DATE
AVERAGE FORCE ON PROJECT FOR THE WEEK MEN SUPERVISION	SPECIFIED WORK DAYS SPECIFIED CALENDAR DAYS 270+29	WORK DAYS USED CALENDAR DAYS USED 363
PROJECT AUTHORIZATION $ 4,178,926.12	SPECIFIED COMPLETION DATE	PERCENT OF TIME ELAPSED 121.4
EXCLUSIVE OF ENGINEERING $ 3,881,757.94	ENGINEERING AUTHORIZATION $ 297,168.08	PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST 100
ESTIMATED COST OF COMPLETED PROJECT EXCLUSIVE OF ENGINEERING $ 3,631,514	ENGINEERING COST TO DATE $ 404,500	PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION 100
ESTIMATED PERCENT ~~OVERRUN~~ UNDERRUN 3.17 %	PERCENT OF AUTHORIZATION 136.1 %	DATE PROJECT WAS COMPLETED April 21, 1970

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE	MAT'L PROD	P.C.C.Paving	
100	100	100	100	100	100	100	

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT	3.69	3.69		3.69	3.69
MILES PARTIALLY COMPLETED	3.69	3.69		3.69	3.69
MILES COMPLETED	3.69	3.69		3.69	3.69
TOTAL ESTIMATED QUANTITIES (CONTRACT)	1,843,000 cy.	137,500 ton		24,000 ton	102,750 sq.yd.
TOTAL QUANTITIES CORRECTED TO DATE	1,990,000cy.	119,884 ton		20,758 ton	101,375 sq.yd.
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE	1,990,000cy.	119,884 ton		20,758 ton	101,375 sq.yd.
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.	9862	9350						
PERCENT	100	100						

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY May 31	Fair			
MONDAY June 1	Fair			
TUESDAY 2	Fair			
WEDNESDAY 3	Fair			
THURSDAY 4	Fair			
FRIDAY 5	Fair			
SATURDAY 6	Fair			

NOTED
R. D. CHURCH

Routing
Morgan
Bond
Walter

RECEIVED
JUN 8 1970
CONSTRUCTION DIVISION

BEN GIFFORD

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY	
MONDAY	
TUESDAY	
WEDNESDAY	
THURSDAY	
FRIDAY	
SATURDAY	

REMARKS

Semi-Final was completed and delivered to Division Office Wednesday June 3rd.

SIGNED E. S. Thompson LOCATION Ontario
E. S. Thompson, Resident Engineer

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES

SP-F216

RECEIVED
JUN 8 - 1970

FOR FILING

I-80N-7(95)341
7185

June 5, 1970

Valley Radiator Service
805 Grandy
La Grande, Oregon 97850

Attention: Maurice Truax

Gentlemen:

Thank you for your letter of June 3 informing us that Roy L. Houck Sons' Corporation has paid their bill to you in full. This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

Our records indicate that this claim was in the amount of $236 which was filed with the Secretary of State on January 21, 1970. This information is being noted in our records and we will advise the surety and the contractor of the receipt of your letter.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By
C. W. Head, Assistant Secretary

CWH:sj

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.
bc Commission

Noted on card.
S.J.

June 3, 1970
La Grande, Oregon

Floyd Query
Sec. State Highway Dep.
Salem, Oregon 97310

Dear Sir:

This is to inform you that Roy Houck Sons' Corp. has paid there bill in full to Valley Radiator Service, in full.

Thank you for your assistance.

Verry truley yours
Valley Radiator Service
805 Grandy
La Grande, Oregon 97850
Maurice Truax (owner)

Maurie Truax

NOTED
FLOYD QUERY

NOTED
C. W. HEAD

RECEIVED
JUN 4 - 1970
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
JUN 8 - 1970

FOR FILING

I-80N-7(25)341
7185

June 5, 1970

Mr. Donald M. McLean
Box 403
Huntington, Oregon 97907

Dear Mr. McLean:

Thank you for your recent letter advising us that you have received payment of $258 from Roy L. Houck Sons' Corporation for backhoe rental. You state this is in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

This information is being noted in our records and we will advise the surety and the contractor of the receipt of your letter.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By
C. W. Head, Assistant Secretary

CWH:sj

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.
bc Commission

Noted on Card SJ.

DONALD M. McLEAN
CONTRACTOR
PHONE 869-4801 BOX 403
HUNTINGTON, OREGON

Mr. Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

Dear Mr. Query:

I have received payment of $258.00 from Roy L. Houck Son's Corporation Contract No. 7185 for backhoe rental June 1, 1970.

Thank you
Yours Truly,
Donald M. McLean
Donald M. McLean
Box 403
Huntington, Oregon 97907

NOTED
FLOYD QUERY

D
HEAD

RECEIVED
JUN 4 - 1970
OREGON
STATE HIGHWAY COMMISSION

Files

RECEIVED
JUN 17 1970

[illegible]

7185

4526

FILED
JUN - 8 1970
CLAY MYERS
SECRETARY OF STATE

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

June 5, 1970

Texaco, Inc.
3350 Wilshire Boulevard
Los Angeles, California 90005

Attention: J. M. Custer

Gentlemen:

This is to acknowledge receipt of your letter of May 27 advising us that Roy L. Houck Sons' Corporation owes you for gasoline, middle distillates, oils and greases in the amount of $14,607.39. This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

NOTED ON CARD
June 16, 1970 ses

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By ORIGINAL SIGNED
C. W. HEAD
C. W. Head, Assistant Secretary

CWH:sj

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation
bc Commission
Secretary of State - Please acknowledge receipt of this claim on the enclosed copy of this letter.

RECEIVED
JUN 9 - 1970
OREGON
STATE HIGHWAY COMMISSION

NOTED
C. W. HEAD

TEXACO
PETROLEUM PRODUCTS

SALES DEPARTMENT–U. S.
WESTERN REGION
J. M. CUSTER
ASSISTANT MANAGER- CREDIT SALES

TEXACO INC.
3350 WILSHIRE BOULEVARD
LOS ANGELES, CALIF. 90005

May 27, 1970

NOTICE OF MATERIALMEN CLAIM

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Oregon State Highway Division
Highway Building
Salem, Oregon 97310

Attn: Mr. Floyd Query, Secretary

Gentlemen:

Notice is hereby given that the undersigned, Texaco Inc., a Delaware corporation, has a claim for gasoline, middle distillates, oils and greases which were furnished by said Texaco Inc., in the sum of $14,607.39 against the bond taken from Roy L. Houck Sons, Corp. and Aetna Casualty and Surety Co., Portland for the work of Lime Section contract on the Old Oregon Trail, Contract No. 7185.

Yours very truly,

TEXACO INC.

J. M. Custer
J. M. CUSTER

JMC:gs

RECEIVED
JUN 1 - 1970
[illegible]
STATE HIGHWAY COMMISSION

NOTED
FLOYD QUERY

JUN 4 - 1970

I-80N-7[illegible])-41
7185

June 4, 1970

Intermountain Equipment Co.
P. O. Box 1129
Boise, Idaho 83701

Attention: Mr. John L. Welch
Treasurer

Gentlemen:

Thank you for your letter of June 2 advising us that you have received payment in full from Roy L. Houck Sons' Corporation.

This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

Our records reveal that your claim was for $69 plus interest for equipment rental.

This information is being noted in our records and we will advise the surety and contractor of the receipt of your letter.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:cr
cc: The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation
Commission

NOTED ON CARD
6-4-70 CR

P. A. DUFFORD
PRESIDENT AND
GENERAL MANAGER

A. ALDECOA
VICE PRESIDENT
BRANCH MANAGER

C. H. DeFOREST
SECRETARY AND
TREASURER

INTERMOUNTAIN EQUIPMENT COMPANY

P. O. BOX 1129 TELEPHONE (208) 343-6441
BOISE, IDAHO 83701

June 2, 1970

Oregon State Highway Division
Highway Building
Salem, Oregon 97310

Attention: Mr. Floyd Query, Secretary

Please be advised we have received payment in full for the Roy L. Houck Sons' Corporation account about which we wrote on May 21 and your courteous reply of May 27.

Very truly yours,

INTERMOUNTAIN EQUIPMENT COMPANY

John L. Welch

John L. Welch
Treasurer

RECEIVED
JUN [illegible] 1970
[illegible]
STATE HIGHWAY COMMISSION

NOTED
FLOYD QUERY

[illegible]
C. W. HEAD

RECEIVED
JUN 4 - 1970

I-80N-7(25)
7185

June 4, 1970

Phillips-Long Ford Sales, Inc.
2300 Main Street
Baker, Oregon 97814

Attention: Lewis L. Long

Gentlemen:

Thank you for your recent note received in this office on June 1 advising us that your claim which was filed against Roy L. Houck Sons' Corporation for truck repairs in the amount of $18.99 has been paid.

This appears to be in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

This information will be noted in our records and we will advise the surety and the principal contractor of the receipt of your note.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:cr
cc: The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation
Commission

NOTED ON CARD
6-4-70 CR

1859

**OREGON STATE
HIGHWAY DIVISION**

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

May 27, 1970

Phillips-Long Ford Sales, Inc.
2300 Main Street
Baker, Oregon 97814

Attention: Lewis L. Long

Gentlemen:

This is to acknowledge receipt of your letter of May 16 advising us that Roy L. Houck & Sons of Salem owes you for truck repairs in the amount of $18.99. This appears to be in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract, which is given to assure completion of the job and payment of all bills incurred in it. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

Floyd Query

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.

RECEIVED
JUN 1 - 1970
OREGON
STATE HIGHWAY COMMISSION

This was paid May 23rd. We thank you.

Phillips-Long Ford Sales, Inc.

NOTED
C. W. HEAD

File

RECEIVED
[illegible]
FOR FILING

4524

FILED
JUN 0 4 1970
CLAY MYERS
SECRETARY OF STATE

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

[illegible]

June 3, 1970

Sullivan Construction Company
515 S. W. 11th Street
Ontario, Oregon 97914

Gentlemen:

This is in reply to your letter of May 27 and attached statements indicating that Stach Construction Company owes you for labor in the amounts of $672 and $1,550.

This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures, and signing on the Lime Section of the Old Oregon Trail in Baker County.

NOTED ON CARD
6-5-70 cR

The Aetna Casualty and Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S. E., Salem, furnished the performance bond on this contract which is given to assure completion of the contract and payment of all bills incurred in it. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

ORIGINAL SIGNED
FLOYD QUERY

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

RECEIVED
JUN 5 - 1970
OREGON
STATE HIGHWAY COMMISSION

cc Roy L. Houck Sons' Corp.
The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.

Hon. Clay Myers - Please acknowledge receipt of the attached claim on the enclosed copy of this letter.

BONDED -- COMMERCIAL & RESIDENTIAL BUILDINGS

SULLIVAN CONSTRUCTION CO.

GENERAL CONTRACTOR

Robert E. Sullivan

515 S.W. 11th Street

ONTARIO, OREGON 97914

Phone 889-8496

May 27,1970

Floyd Query
Secretary of Commission
Oregon State Highway Bldg.
Salem, Oregon 97310

PROJECT: Overpass at
Lime, Oregon
Contract #7185

Dear Mr. Query;

Having talked to Mr. Thompson, Engineer at the State Highway Department office, in Ontario, he suggested we write you a letter in claim for money due on labor for the above project.

Enclosed please find copies of statements which have been presented to Stach Construction Co.

Sincerely,

NOTED
FLOYD QUERY

RES/cs

RECEIVED
MAY 29 1970
OREGON
STATE HIGHWAY COMMISSION

Bonded — Commercial & Residential Buildings

STATEMENT

Ontario, Oregon, 4/25, 1970

SULLIVAN CONSTRUCTION CO.

GENERAL CONTRACTOR
Robert E. Sullivan
515 S.W. 11th Street
Phone 889-8496
ONTARIO, OREGON 97914

Stack Construction inc
P.O. Box 730
Grants Pass, Oregon.

Autherized. Extra Laber To Repair Faulty. Paint Area.	672.00
	672.00

RECEIVED
MAY 20 1970
OREGON
STATE HIGHWAY COMMISSION

Bonded — Commercial & Residential Buildings

STATEMENT

Ontario, Oregon, 4/25, 1970

SULLIVAN CONSTRUCTION CO.

GENERAL CONTRACTOR
Robert E. Sullivan
515 S.W. 11th Street
ONTARIO, OREGON 97914
Phone 889-8496

Stach Construction Inc
P.O. Box 730
Grants Pass, Oregon

Base Bid Complete Labor For Painting under Pass At Lime Oregon	1550^{00}
	1550^{00}

RECEIVED
MAY 29 1970
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
JUN 1 - 1970

Claim 4522

FILED
MAY 20 1970
CLAY MYERS
SECRETARY OF STATE

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

[illegible])347
[illegible]

May 28, 1970

Arthur Simonsen & Company, Inc.
General Contractors
3005 N. 3rd Street
Baker, Oregon 97814

Gentlemen:

This is to acknowledge receipt of your letter of May 23 advising us that Roy L. Houck Sons' Corporation owes you for equipment rental in the amount of $1,109.96. From the description given in your letter, this appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION
ORIGINAL SIGNED
C. W. HEAD
By
C. W. Head, Assistant Secretary

NOTED
C. W. HEAD

CWH:sj

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.
bc Commission
Secretary of State - Please acknowledge receipt of this claim on the enclosed copy of this letter.

RECEIVED
JUN 1 - 1970
OREGON
STATE HIGHWAY COMMISSION

NOTED ON CARD
6-1-70

Arthur Simonsen & Co., Inc.
General Contractors
3005 N. 3rd Street
Baker, Oregon 97814

ARTHUR SIMONSEN
523-5013

ROGER SIMONSEN
523-4318

May 23 , 1970

Oregon State Highway Department
State Highway Bldg.
Salem , Oregon 97310

Dear Sirs:

We have due us the sum of $ 1,109.96 for equipment rental on Roy L. Houck Son's Corporation on their construction job at Lime , Oregon Job no. 6846 , to date we have received no answer to statements submitted to them .

We would like advise as to length of time before filing is necessary for filing against job and bond for the amount due us. Would also like to know who furnished the Bond for this project.

Very truly yours,
Arthur Simonsen & Co.,Inc.
Arthur Simonsen
Arthur Simonsen Pres.

NOTED
FLOYD QUERY

RECEIVED
MAY 27 1970
OREGON
STATE HIGHWAY COMMISSION

C

C 4521

RECEIVED
JUN 1 - 1970

FILED
MAY 29 1970
CLAY MYERS
SECRETARY OF STATE

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

May 27, 1970

Idaho Power Company
Fayette,
Idaho 83661

Attention: J. B. Landon
Div. Acctg. Mgr.

Gentlemen:

This is to acknowledge receipt of your letter of May 19 advising us that Roy L. Houck Sons' Corporation owes you $244.90 and that Stach Construction Company owes you $47.20. From the description given in your letter this appears to be in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract, which is given to assure completion of the job and payment of all bills incurred in it. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

RECEIVED
MAY 29 1970
OREGON
STATE HIGHWAY COMMISSION

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation

bc Commission
Secretary of State - Please acknowledge receipt of this claim on the enclosed copy of this letter.

NOTED ON CARD
6-1-70

SNAKE RIVER
HYDRO POWER

IDAHO POWER COMPANY

Payette, Idaho 73661
May 19, 1970

Oregon State Highway Comm.
Floyd Query, Sec.
State Highway Bldg.
Salem, Oregon 97310

Re: Contract 7185 Lime Station

Dear Sir:

We would like to make claim against the final settlement of this contract for bills due us from the following contractors.

Roy L. Houck Sons Box 671 Salem, Oregon

Acct #	1904 0900 2	$ 29.27	
	1904 0905 1	10.24	
	1904 1380 1	32.41	
	1904 1400 1	172.98	
		$244.90	due

Stach Construction Co. Box 730 Grants Pass, Ore.

Acct #	1904 1080 1	$ 47.20	due

These amounts are for the last two months and the final billing on each account. Each of these accounts have been billed every month and a final billing rendered with no response from the customer.

If there are special forms to make this claim or you need any additional information please let me know. Your assistance in this matter is very much appreciated.

Very truly yours,

JB Landon
J. B. Landon
Div. Acctg. Mgr.

NOTED
FLOYD QUERY

RECEIVED
MAY 20 1970
OREGON
STATE HIGHWAY COMMISSION

JBL:id
cc: H. Smith
J. P. O'Connor

RECEIVED
JUN 1 - 1970

520

FILED
MAY 28 1970
CLAY MYERS

1859

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

May 27, 1970

Phillips-Long Ford Sales, Inc.
2300 Main Street
Baker, Oregon 97814

Attention: Lewis L. Long

Gentlemen:

This is to acknowledge receipt of your letter of May 16 advising us that Roy L. Houck & Sons of Salem owes you for truck repairs in the amount of $18.99. This appears to be in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract, which is given to assure completion of the job and payment of all bills incurred in it. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

RECEIVED
MAY 29 1970
OREGON
STATE HIGHWAY COMMISSION

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.

bc Commission
Secretary of State - Please acknowledge receipt of this claim on the enclosed copy of this letter.

NOTED ON CARD
6-1-70

NOTED
C. W. HEAD

PHILLIPS-LONG FORD SALES, Inc.

Telephone 523-3625 2300 Main Street
BAKER, OREGON 97814

Baker, Oregon
May 16, 1970

State Highway Department
State Office Bldg.,
Salem, Oregon

Gentlemen:

Last August, while working on State Highway out of Baker, Roy L. Houck & Sons of Salem, Oregon, brought a truck into our garage for repairs, which amounted to $18.99.

To date we have been unable to collect this account, although we have sent numerous statements and called several times on the phone.

Any help you may be able to give us to effect collection of this account would be appreciated.

Yours very truly,

PHILLIPS-LONG FORD SALES, INC.,

By Lewis L Long
Lewis L. Long

L L

RECEIVED
MAY 19 1970
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
JUN 1 - 1970
FOR FILING

4519

FILED
MAY 2 8 1970
CLAY MYERS
SECRETARY OF STATE

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

I-80N-7(25)341

May 27, 1970

Intermountain Equipment Company
P. O. Box 1129
Boise, Idaho 83701

Attention: John L. Welch
Treasurer

Gentlemen:

This is to acknowledge receipt of your letter of May 21 and copy of your invoice advising us that Roy L. Houck Sons' Corporation owes you for equipment rental in the amount of $69 plus interest. This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the ~~Lime~~ Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract, which is given to assure completion of the project and payment of all bills incurred in it. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please advise this office when your claim has been satisfied.

Very truly yours,

RECEIVED
MAY 29 1970
OREGON
STATE HIGHWAY COMMISSION

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

NOTED ON CARD
6-1-70 aj

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.

MAILED
= W. HEAD

bc Commission
Secretary of State - Please acknowledge receipt of this claim on the enclosed copy of this letter.

P. A. DUFFORD
PRESIDENT AND
GENERAL MANAGER

A. ALDECOA
VICE PRESIDENT
BRANCH MANAGER

C. H. DEFOREST
SECRETARY AND
TREASURER

INTERMOUNTAIN EQUIPMENT COMPANY

P. O. BOX 1129 TELEPHONE (208) 343-6441
BOISE, IDAHO 83701

May 21, 1970

Oregon State Highway Commission
State Highway Building
Salem, Oregon 97310

Attention: Mr. Floyd Query, Secretary

While working on the Interstate Highway Construction close to Huntington, Oregon, Roy L. Houck Sons Corp. incurred an account of $69.00 for equipment rental per copy of our invoice 8-473 attached which they did not pay. To date interest in the amount has accrued and the total due us is $73.00 per statement attached.

It is our understanding final disbursements will not be made by the State of Oregon until it is known all incurred charges for the project have been paid.

We will appreciate it very much if you will enter our claim against the job so that payment will come to us before final payment is made to the contractors involved.

Very truly yours,

INTERMOUNTAIN EQUIPMENT COMPANY

John L. Welch

John L.Welch
Treasurer

NOTED
FLOYD QUERY

RECEIVED
MAY 22 1970
OREGON
STATE HIGHWAY COMMISSION

FORM 3-B. BOISE

INTERMOUNTAIN EQUIPMENT CO.

BROADWAY AT MYRTLE BOX 1129 BOISE, IDAHO PHONE: 343-6441

TERMS: NET CASH

DATE 8-12-69

SOLD TO
Roy L. Houck Sons Corp.
Huntington, Oregon 97403

CUSTOMER'S ORDER
ORDERED BY
NO.
ORDER REC'D BY

SHIP TO

DESTINATION

DATE SHIPPED

HOW SHIPPED

SHIPPED FROM

PREPAID OR COLLECT

OUR INVOICE NO. 8 473

DATE 8-12-69

FOR 8789 ER

F.O.B.

B/L NO.

ORDER NO. 144098 B

ORDERED	BACK ORDERED	SHIPPED		UNIT PRICE		EXTENSION	
			Rental on the following for				
			two weeks, 7-23-69 to 8-8-69:	(per week)			
		1	20M Pump S/N 2787	34	25	68	50
			Insurance				50
						69	00
			No Tax - used in Oregon				

RECEIVED BY

PAGE NO. 1 OF 1

NO MERCHANDISE MAY BE RETURNED WITHOUT OUR WRITTEN PERMISSION. ANY CLAIMS FOR SHORTAGES, ERRORS, OR OMISSIONS MUST BE MADE WITHIN 10 DAYS OF RECEIPT OF SHIPMENT.

INVOICE

TYPED BY bg

c

RECEIVED
MAY 27 1970
FOR FILING

I-80N-7(25)341
7185

May 27, 1970

Spokane Culvert & Fabricating Co.
East 6212 Main Avenue
Spokane, Washington 99206

Attention: C. M. Carr

Gentlemen:

This is to acknowledge receipt of your letter of May 21 informing us that you have had no reply from Roy L. Houck Sons' Corporation in connection with your claim for material in the amount of $1,566.23. Our records indicate that this is in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County. This claim was filed with the Secretary of State on March 5, 1970, and was assigned his File No. 4475.

We will forward a copy of your letter to the surety and agent for their information.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:sj
cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.

NOTED ON CARD
5-27-70

SPOKANE CULVERT & FABRICATING COMPANY
EAST 6212 MAIN AVE. • 509 KE5-1571 • SPOKANE, WASHINGTON 99206

21 May 1970

Mr. Floyd Query, Secretary
Oregon State Highway Commission
Highway Building
Salem, Oregon 97310

Dear Mr. Query:

To date we have had no reply from Houck relative to the letter which we wrote him on April 20th, copy of which was sent to you and copy of which we are enclosing.

Also we have never heard anything, relative to this matter, from his bonding company.

However, if there is anything you can do to help get this matter paid up completely we will most certainly appreciate it.

Thank you,

Sincerely,

SPOKANE CULVERT AND FABRICATING COMPANY

C M Carr

C.M.Carr,
Credit Manager

CMC:c
Encl: Copy of Apr 20th Letter to Houck

NOTED
FLOYD QUERY

RECEIVED
MAY 22 1970
OREGON
STATE HIGHWAY COMMISSION

20 April 1970

Roy L. Houck Sons' Corporation
P.O. Box 671
Salem, Oregon 97308

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Subject: Balance Due on your account: $1566.23
Your check in amount $1213.01

Gentlemen:

We are in receipt of subject check applying to your account. We note that you have deducted from the amount due, credits in the amount of $10.47 and $152.80. You were given credit for the $10.47 quite some time prior to the amount shown above in our balance, also the credit in amount $152.80 was previously deducted from the balance due.(see copy of letter to Mr. Lambie, attached).

We also note that you have not included the interest due on this old old account (which was figured only up to and including the 28th of February) in amount $78.45, and which is a legitimate charge.

Inasmuch as you have deducted above referenced credits in error and have not included the interest due on this account, we cannot accept this check as payment in full of this account. We are therefore, returning it to you and requesting a check in full in amount shown above in payment of this balance.

Your prompt attention to this will be appreciated.

Yours very truly,

SPOKANE CULVERT AND FABRICATING COMPANY

C. M. Carr
Credit Manager

CMC:c
Encl: Check No 10180 and Copy of Our Letter to Mr. Lambie
cc: Aetna Casualty and Surety Co. Updegraff Ins. Inc.
Floyd Query, Secretary
Oregon State Highway Commission

Letter Signed for 4-28-70 at Houck's

COPY

RECEIVED
MAY 22 1970
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
MAY 22 1970

FOR
I-80N-7(25)341
1145

UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Bureau of Public Roads
Box 300
Salem OR 97308

DATE: May 19, 1970

In reply refer to: 08-35-DA5

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM : for R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Project I-80N-7(25)341
Lime Section, Oregon Trail Highway
State Force Order No. 13, Supplement No. 2
Total Estimated Amount of the Order - $3,500
Federal Participation - $3,250

Reference is made to your letter dated May 13 concerning subject order.

We are approving the use of State forces as being in the public interest under provisions of PPM 21-6.2 for the following reasons:

1. The contractor on the subject project is neither properly equipped nor staffed to perform the work contemplated under the order.

2. The State has the necessary special boring equipment and trained personnel to perform the work most economically.

Equipment rental rates will be according to a schedule that has been previously approved by this office for use on force account work.

Reimbursement is to be made on an actual cost basis. A signed copy of the order is returned.

Enclosure

5-22-70
REFERRED TO
Morgan Wlenc.
By ... Hwy. Engr

RECEIVED
MAY 21 1970
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

Form [illegible]

STATE COPY

APPROVED EFFECTIVE DATE 3-19-70
Contingent upon modification of pro- agreement if additional funds are required
BY
TITLE Dist. Engineer
DATE 5-19-70

G-1P

OREGON STATE HIGHWAY DEPARTMENT

Order for State Force Work

APPLYING TO CONTRACT PROJECTS

U. S. BUREAU OF PUBLIC ROADS No. 13 supplement#2

Project Name Lime ~~Section~~ **Date** May 4, 1970

I-80N-7(25)341

Highway Old Oregon Trail **Contract No.** 7185 **F. A. Project No.**

County Baker **Prefix** 601-1065 **Account No.** 279-13

Description of Work To Be Done:

Install slope indicators

Location by Station Numbers:

Original SFO 13	$ 600
Supplement No. 1	3,500

704+00

Estimate of Quantities and Costs:

Labor	$2,000.00
Equipment	1,000.00
Material	500.00
Total Supplement No. 2	$3,500.00

New Total $7,600

Explanation:

Depth of holes required for installation of indicator tubes was in excess of estimated depth.

INSTRUCTIONS

Submit a separate order for each piece or kind of state force work to be undertaken. Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs.

Five copies of the order are to be submitted to Salem. After approval by the Assistant State Highway Engineer, one copy will be sent to the Division Engineer and one copy to the Resident Engineer.

Project authorization	$ 4,178,926.12
Present estimate of project cost, including $ 3,500.00 for work under this order	$ 4,006,140.00
Expected under-run ~~over-run~~ (amount)	$ 176,286.12
Expected under-run ~~over-run~~ (per cent)	4.13%

Space to right of this line is for use of Salem Office

Submitted by: E. S. Thompson
Resident Engineer

Approval Recommended:
for
Construction Engineer ~~or Bridge Engineer~~

Approval Recommended:
Asst. Division Engineer

Approved: S. L. Decker
~~Deputy State Highway Engineer,~~
~~Assistant State Highway Engineer or~~
~~Office~~ Engineer.
Construction

RECEIVED
MAY 22 1970
FOR FILING

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

Claim 4515

FILED
MAY 14 1970
CLAY MYERS
SECRETARY OF STATE

May 13, 1970

Bubb Motor
Huntington,
Oregon 97907

RECEIVED
CLAY MYERS
SECRETARY OF STATE

Gentlemen:

This is to acknowledge receipt of your letter of May 7 with attached statements indicating that Stach Construction Company of Grants Pass owes you for material in the amount of $561.60. This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract, which is given to assure completion of the contract and payment of all bills incurred in it. We will advise them of the receipt of your claim and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

NOTED ON CARD
5-19-70 SR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.

RECEIVED
MAY 15
STATE HIGHWAY COMMISSION

bc Commission
Secretary of State – Please acknowledge receipt of this claim on the enclosed copy of this letter.

Huntington Oregon
May 7th 1970

Mr. Floyd Query
Oregon State Highway Comm.
Salem Oregon

Dear Mr. Query

Inclosed is a copy of our account with Stack Construction Co Grants Pass Oregon

This material was used on Bridge just completed, on Huntington Lime section of U.S. 80.

We were advised to notify you that this was unpaid at this date

Buell Motor
J.O. Buell

RECEIVED
MAY 11 1970
OREGON
STATE HIGHWAY COMMISSION

STATEMENT OF ACCOUNT FOR Feb. 19 1970

Stack Construction Co
PO Box 730 Grants Pass Oreg 97526

IN ACCOUNT WITH
BUBB MOTOR
HUNTINGTON, OREGON
ACCESSORIES, GAS AND OIL
HARDWARE — COAL
PHONE 4441

Accounts Due and Payable Each 30 Days, A Carrying Charge Will Be Made for Unpaid Balance the 10th of Each Month.

DATE	ITEMS		CHARGES	CREDITS	BALANCE
2/14	52 Gal Gas @ .315	Bob Swiss	16.38		
17	1 pc key stock	Al Christie	.15		
	5 qt Bonox T6	✓	1.30		
	65 Gal Gas	✓	20.48		
18	27 Gal Gas	Chuck Smith	8.51		
20	77 Gal Gas	G Gomez	24.21		
25	77 Gal Gas	F.E. Williams	24.26		
26	74 Gal Gas	Chuck Smith	23.31		
~~27~~	31 – –	✓	9.33		
	1 Spark Plug	✓	1.30		
27	1 Pick Handle	Robt Pugh	2.30		
					127.38

RECEIVED
MAY 11 1970
OREGON
STATE HIGHWAY COMMISSION

STATEMENT OF ACCOUNT FOR March 1970

Steele Construction Co

Po Box 730 Grants Pass Oreg 97526

IN ACCOUNT WITH

BUBB MOTOR

HUNTINGTON, OREGON

ACCESSORIES, GAS AND OIL

HARDWARE — COAL

PHONE 4441

Accounts Due and Payable Each 30 Days, A Carrying Charge Will Be Made for Unpaid Balance the 10th of Each Month.

DATE	ITEMS		CHARGES		CREDITS		BALANCE	
2/28	Fwd						127	35
2/28	35 Gal Gas @ 31.5	C. Dumont	11	03				
	33 " Diesel @ 17.2	✓	5	14				
	25 " "	Duane C.	4	30				
3/2	32 gal Gas	Al Christie	10	08				
	28 " Diesel	✓	4	8–				
	2 qt Borax T6	✓	1	30				
4	78 gal gas	R. Masterson	24	57				
	76 " Diesel	✓	13	—				
6	70 " Gas	B H Roberts	22	05				
7	37 " Diesel	Al Christie	6	36				
	19 " Gas	✓	5	99				
9	64 " Diesel	✓	11	01				
	6 gal 1100 Lub oil	✓	8	04				
	1 ctn M.P. Grease	✓	3	60				
14	1 Butcher Knife	B.B. Currie	1	69				
	1 Hose	✓	2	50				
	1 Tire Repair	Al Christie	1	50				
							264	38

STATEMENT OF ACCOUNT FOR March, 1970

Stock Construction Co
Box 570 Grants Pass Oregon 97526

IN ACCOUNT WITH

BUBB MOTOR

HUNTINGTON, OREGON
ACCESSORIES, GAS AND OIL
HARDWARE — COAL
PHONE 4441

Accounts Due and Payable Each 30 Days, A Carrying Charge Will Be Made for Unpaid Balance the 10th of Each Month.

DATE	ITEMS		CHARGES	CREDITS	BALANCE
3/1	Fuel				264.38
3/6	69 Gal Gas	Al Christie	21.74		
12	84 〃 〃	〃	14.45		
14	74 〃 〃	Bob Squire	23.31		
17	73 〃 〃	〃	23.—		
	2 Point Breakers	〃	3.01		
18	65 Gal Gas	〃	20.48		
19	1 Ford Radiator Hose	B. Daniels	4.20	✓	
21	2 Point Breakers	Bob Squire	3.01		
	Tire repair	〃	3.50		
23	66 gal Gas	〃	20.79		
	53 〃 〃	〃	16.70		
	1 Spring	〃	.50		
27	33 gal Diesel	Chuck Smith	8.68		
30	63 Gal Gas	Bob Squire	19.85		
					443.40

STATEMENT OF ACCOUNT FOR April 1970

Steel Construction Co.
Box 780 Grants Pass Oreg. 97526

IN ACCOUNT WITH

BUBB MOTOR

HUNTINGTON, OREGON

ACCESSORIES, GAS AND OIL
HARDWARE — COAL

PHONE 4441

Accounts Due and Payable Each 30 Days, A Carrying Charge Will Be Made for Unpaid Balance the 10th of Each Month.

DATE	ITEMS		CHARGES	CREDITS	BALANCE
3/31	Balance Fwd				1143 40
3/31	1 Roll Tape	Bob Swims	39		
4/1	4 Pkg Steel Wool @ 45	Robt Single	1 80		
	6 qt X100 Lub oil	Bob Swims	3 60		
	1 qt Tran fluid	—	65		
3	24 gal Gas @ .315	—	7 56		
	31 gal Diesel @ .27	—	8 37		
3	2 Paint Rollers @ .87	Roy McIlwain	1 74		
7	70 gal Gas	Bob Swims	22 05		
	2 Roller Covers	—	1 74		
	1 Paint Roller	—	1 35		
	2 Rollers @ .63	—	1 26		
13	1 Tube Caulking	—	63		
	1 Plastic Stick		1 —		
15	76 gal Gas	Tom Francis	23 94		
16	6 qt X100-30 Lub Oil	—	3 60		
21	74 gal Gas	Bob Swims	23 40		
	1 Paint Brush		2 74		
	1 Roller		1 49		√1477 69

STATEMENT OF ACCOUNT FOR April 19 70

Steel Construction Co.
PO Box 730
Grants Pass Oreg 97526

IN ACCOUNT WITH

BUBB MOTOR

HUNTINGTON, OREGON
ACCESSORIES, GAS AND OIL
HARDWARE — COAL
PHONE 4441

Accounts Due and Payable Each 30 Days, A Carrying Charge Will Be Made for Unpaid Balance the 10th of Each Month.

DATE	ITEMS	CHARGES		CREDITS		BALANCE	
4/7	Fwd					$47	69
4/21	1 Corner Roller		98				
27	43 Gal Gas	13	55				
						$62	22
4/30	Cr over charge on Road Hone 3/19 —				62		
						$61	60

RECEIVED
MAY 1 1970
STATE HIGHWAY COMMISSION

RECEIVED
MAY 22 1970
FOR FILING

4514

FILED
MAY 1 [illegible]
CLAY MYERS

1859

**OREGON STATE
HIGHWAY DIVISION**

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

I-80N-7(25)341

May 11, 1970

Baker Redi-Mix, Inc.
P. O. Box 372
Baker, Oregon 97814

Gentlemen:

This is to acknowledge receipt of your letter of April 30 and attached invoice advising us that Roy L. Houck Sons' Corporation owes you for rock in the amount of $4,695.

From the description given in your letter, this appears to be in reference to Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures, and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty and Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract. We will advise them of the receipt of your claim letter and we will forward it to the Secretary of State for filing.

Please advise this office when your claim has been paid.

Very truly yours,

NOTED ON CARD
5-13-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

Cc ✓

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.

Hon. Clay Myers - Please acknowledge receipt of the attached claim letter on the enclosed copy of this letter. ✓

NOTED
C. W. HEAD

Telephone 523-4644

BAKER REDI-MIX, Inc.
CONCRETE - SAND & GRAVEL - ASPHALT
P. O. BOX 372
BAKER, OREGON 97814

April 30, 1970

Oregon State Highway Department
Mr. Floyd Query
Secretary of the Highway Commission
State Highway Dept. Bldg.
Salem, Oregon 97310

Gentlemen:

Enclosed please find our invoice for ¼-0 crushed rock furnished to Roy L Houck Sons' Corporation on there project on I-80N at Lime, Oregon.

This amount is now past due and we would like to place our claim on any funds due them or retained by the Highway dept.

The bill for the attached material was for asphalt concrete aggrgate to complete there paving and is covered under Houck's purchase order #6846 - 38856.   Amount Due 4695.00

Yours very truly

Baker Redi-Mix Inc.

President

Reg. Letter Ret. Receipt

HS:h

RECEIVED
MAY [illegible] 1970
OREGON
STATE HIGHWAY COMMISSION

NOTED
FLOYD QUERY

BAKER REDI-MIX, Inc.

CONCRETE - SAND & GRAVEL - ASPHALT
P. O. BOX 372 — PH. 523-4644 — BAKER, OREGON 97814

Driver R Equipment 1 Date 2/27/70

Sold To Roy L. Houck & Sons

Job Address I-80 N - Lime Ore.

Mail Address Salem Ore.

QUAN.	DESCRIPTION	PRICE	AMOUNT
Purchase Ord. #C-546 -		38550	
	CU. YDS. SACK CONCRETE		
	Air Entraining		
1/4-0	Crushed Rock for asphalt		4455 00
Truck Rental to	Sand		
Spread Base Rock	Gravel		
	Crushed Rock 2/17/70		128 00
	2/16/70		112 00
	Miles @........per yd. mi.		
	WATER ADDED ON JOB .... Initial	TOTAL	4,695.00

Arrv'd Job________M. Left Job________M. Unloading Time ________

Time Allowed to Discharge Load .... ________

EXCESS TIME Charged @______ per hour ________

1% Interest Per Month Charged on Accounts 30 Days Past Due
Not Responsible for Accidents Inside Curb Line

№ ~~17876~~ 19459

Received By ________

MAY 22 1970

Claim 513

FILED
CLAY MYERS

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

May 4, 1970

Western Bearings, Inc.
P. O. Box 1007
Boise, Idaho 83701

Gentlemen:

This is in reply to your letter of April 27 with attached statement and invoices showing that Roy L. Houck and Sons' Corporation owes you for material in the amount of $100.46.

This appears to be in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty and Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract which is given to assure completion of the job and payment of all bills incurred in it. We will advise them of the receipt of your claim and we will also forward it to the Secretary of State for filing.

Please advise this office when your claim has been paid.

Very truly yours,

ORIGINAL [illegible]
FLOYD [illegible]

5-13-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc: The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation
Commission
Hon. Clay Myers - Please acknowledge receipt of this claim on the enclosed copy of this letter.

THE BEARING MAN

WESTERN BEARINGS INC.

520 FRONT STREET • BOISE, IDAHO 83701 • P. O. BOX 1007 • DIAL 342-6583

April 27, 1970

Idaho
Burley
☆
Idaho Falls
☆
Pocatello
☆
Twin Falls

Oregon
Ontario

Mr. Floyd Query
Secretary
Oregon State Highway Commission
State of Oregon
Salem, Oregon 97310

Dear Mr. Query:

We are writing you to implement a claim against Roy L. Houck & Sons Corporation, P. O. Box 671, Salem, Oregon, for material purchased from us through our Ontario, Oregon store.

Houck was working on a project in the Huntington, Oregon area. We do not have the project number.

Enclosed is a statement and invoice copies covering $100.46 which is outstanding and long past due.

We sincerely appreciate your help in collecting this claim.

Cordially yours,

WESTERN BEARINGS, INC.

JDJesseph

J. D. Jesseph
Vice President

JDJ/fw
enc

cc: Bob Krantz - Salt Lake City

NOTED
FLOYD QUERY

RECEIVED
APR [illegible] 1970
[illegible]
STATE HIGHWAY COMMISSION

BALL AND ROLLER BEARINGS • PILLOW BLOCKS • OIL SEALS • BELTS AND SHEAVES • CHAIN AND SPROCKETS • SPEED REDUCERS • FLEXIBLE COUPLINGS • CONVEYOR EQUIP.

STATEMENT

WESTERN BEARINGS, INC.

Bearing and Power Transmission Specialists

THE BEARING MAN

520 FRONT STREET
PHONE 342-6583
BOISE, IDAHO

2211 HIWAY 30 WEST
PHONE 233-0762
POCATELLO, IDAHO

150 N. OVERLAND
PHONE 678-9031
BURLEY, IDAHO

223 4TH AVE. WEST
PHONE 733-8562
TWIN FALLS, IDAHO

116 SOUTH MAIN
PHONE 547-3321
SODA SPRINGS, IDAHO

MAIL ALL REMITTANCES TO:
P. O. BOX 1007
BOISE, IDAHO 83701

CUSTOMER NO.	DATE
07-251821	4/27/70

CHARGES AND PAYMENTS SINCE ABOVE DATE WILL BE POSTED NEXT MONTH.

Roy L. Houck Sons Corp.
P. O. Box 671
Salem, Oregon 97301

AMT. PAID $

PLEASE DETACH AND RETURN THIS STUB WITH YOUR REMITTANCE. THANK YOU.

NOTICE: OUR DISCOUNTS VARY. PLEASE CHECK ITEMIZED INVOICES ON THIS STATEMENT FOR APPLICABLE DISCOUNT.

		BALANCE FORWARD →	
DATE	REFERENCE	CHARGES	CREDITS
9/6/69	25555	6.53	
9/10/69	25632	2.96	
9/11/69	25656	28.30	
9/19/69	25812	5.78	
9/18/69	01238 CM		2.96
9/20/69	25819	47.44	
9/23/69	25846	7.97	
9/25/69	25910	2.22	
10/20/69	26413	2.40	

Ball & Roller Bearings
Pillow Blocks
Oil Seals
Belts & Sheaves
Chain & Sprockets
Speed Reducers
Industrial Hose & Couplings
Flexible Couplings
Belt and Screw Conveyors
Bucket Elevators

WESTERN BEARINGS, INC.

BOISE, IDAHO
POCATELLO • TWIN FALLS
SODA SPRINGS • BURLEY

WITH US IT'S SERVICE FIRST!

PAST DUE					
OVER 90 DAYS	61 TO 90 DAYS	31 TO 60 DAYS	1 TO 30 DAYS	CURRENT MONTH	TOTAL DUE
					100.64

```
      ¤
  6.53
  2.96
 28.30
  5.78
  2.96-
 47.44
  7.97
  2.22
  2.40
      ¤
100.64¤
```

WESTERN BEARINGS, INC.

Bearing and Power Transmission Specialists

520 FRONT STREET
PHONE 342 6583
BOISE IDAHO

191 LOMAX STREET
PHONE 523 6811
IDAHO FALLS IDAHO

2211 HIWAY 30 WEST
PHONE 233 0762
POCATELLO IDAHO

150 N OVERLAND
PHONE 678 9031
BURLEY, IDAHO

223 4TH AVE. WEST
PHONE 733-8562
TWIN FALLS, IDAHO

368 S.E. 2ND ST
PHONE 889-9143
ONTARIO, OREGON

MAIL ALL REMITTANCES TO
P. O. BOX 8223
BOISE, IDAHO 83707

CUSTOMER ORDER NUMBER	6846-38715
DATE	9-6-69
REQUISITION NUMBER	
TERMS	1% 10th
CORP	07
BRANCH	2
SALES CAT.	1
SALESMAN	11

CHARGE INVOICE NO. I 25555

SHIPPED TO Huntington Oregon
Same

SOLD TO
07 251821
ROY L. HOUCK SONS CORP.
P. O. BOX 671
SALEM, OREGON 97301

PRODUCT NO. CODE
1 BEARINGS
2 POWER TRANSMISSIO
3 MATERIALS HANDLINC
4 MISCELLANEOUS

SALES CATEGORY COD
1 RESALE
2 INTERSTATE
3 STATE & LOCAL GOVT
4 U. S. GOVERNMENT
6 NON-TAXABLE LABOR
7 STATE TAXABLE
8 STATE & LOCAL TAXAB
9 MISC TAXABLE

SHIPPED VIA

BILL OF LADING NO.

FREIGHT: BUS ☐ TRUCK ☐ PARCEL POST ☐ EXPRESS: RAIL ☐ AIR ☐ PICK UP ☑ DEL'D ☐

[illegible]	[illegible]	[illegible]	QUANTITY ORDERED	[illegible]	SHIPPED	ITEM	ITEM CODE	UNIT PRICE	DISCOUNT	NET UNIT PRICE	GROSS [illegible]
		1	1	0	1	309 KDD 4A-F				6.53	6.5

SUB-TOTALS	
SALES TAX	
TOTAL	6.53

FILLED BY

PACKED BY

A 10% handling or restocking charge, after inspection and opinion of the seller, can be made upon all merchandise returned for credit. Merchandise returned for credit must be returned within a 7 day period and accompanied by our Invoice Number and date of purchase.

The maximum legal rate of interest and collection costs and legal fees will be charged on all past due accounts.

ACCEPTED AND RECEIVED BY ________________

BRANCH CUSTOMER FILE

Thank Yo

Ball and Roller Bearings - Pillow Blocks - Oil Seals - Belts and Sheaves - Chain and Sprockets - Speed Reducers - Flexible Couplings - Conveyer Equipment

WESTERN BEARINGS, INC.

Bearing and Power Transmission Specialists

520 FRONT STREET PHONE 342-6583 BOISE, IDAHO	191 LOMAX STREET PHONE 523-6811 IDAHO FALLS IDAHO	2211 HIWAY 30 WEST PHONE 233-0762 POCATELLO IDAHO	150 N. OVERLAND PHONE 678-9031 BURLEY, IDAHO	223 4TH AVE. WEST PHONE 733-8562 TWIN FALLS, IDAHO	348 S.E. 2ND ST PHONE 889-9143 ONTARIO, OREGON

MAIL ALL REMITTANCES TO
P. O. BOX 8223
BOISE, IDAHO 83707

846

CUSTOMER ORDER NUMBER	DATE
38727	9-10-69

REQUISITION NUMBER

TERMS 1/10th

CORP. 07

BRANCH Y

CHARGE
INVOICE NO. I 25632

SALES CAT. 1

SALESMAN 11

SHIPPED TO

PRODUCT NO CODE
1 BEARINGS
2 POWER TRANSMISSIONS
3 MATERIALS HANDLING
4 MISCELLANEOUS

SALES CATEGORY CODE
1 RESALE
2 INTERSTATE
3 STATE & LOCAL GOVT
4 U S GOVERNMENT
6 NON-TAXABLE LABOR
7 STATE TAXABLE
8 STATE & LOCAL TAXABLE
9 MISC TAXABLE

SOLD TO

07 251821
ROY L. HOUCK SONS CORP.
P. O. BOX 671
SALEM, OREGON 97301

SHIPPED VIA

BILL OF LADING NO.

FREIGHT: BUS ☐ TRUCK ☐ PARCEL POST ☐ EXPRESS: RAIL ☐ AIR ☐ PICK UP ☒ DEL'D ☐

[illegible]	[illegible] CODE	[illegible]	QUANTITY ORDERED	[illegible]	SHIPPED	ITEM		ITEM CODE	UNIT PRICE	DISCOUNT	NET UNIT PRICE	GROSS TOTAL
		1	1	0	1	55172	[illegible]			Net		2.96

SUB-TOTALS	
SALES TAX	
TOTAL	2.96

BILLED BY

PACKED BY

A 10% handling or restocking charge, after inspection and opinion of the seller, can be made upon all merchandise returned for credit.
Merchandise returned for credit must be returned within a 7 day period and accompanied by our Invoice Number and date of purchase.
The maximum legal rate of interest and collection costs and legal fees will be charged on all past due accounts.

ACCEPTED AND RECEIVED BY

CUSTOMER FILE

Thank You

Ball and Roller Bearings - Pillow Blocks - Oil Seals - Belts and Sheaves - Chain and Sprockets - Speed Reducers - Flexible Couplings - Conveyor Equipment

243056

WESTERN BEARINGS, INC.

Bearing and Power Transmission Specialists

520 FRONT STREET PHONE 342-6583 BOISE, IDAHO	191 LOMAX STREET PHONE 523-6811 IDAHO FALLS, IDAHO	2211 HIWAY 30 WEST PHONE 233-0767 POCATELLO, IDAHO	150 N. OVERLAND PHONE 678-9031 BURLEY, IDAHO	223 4TH AVE. WEST PHONE 733-8562 TWIN FALLS, IDAHO	368 S.E. 2ND ST PHONE 889-9143 ONTARIO, OREGON

MAIL ALL REMITTANCES TO
P.O. BOX 8223
BOISE, IDAHO 83707

SOLD TO
07 251821
ROY L. HOUCK SONS CORP.
P. O. BOX 671
SALEM, OREGON 97301

CUSTOMER ORDER NUMBER	6846
DATE	9/11/69
REQUISITION NUMBER	38731
TERMS	2% 10th
CORP.	07
BRANCH	2

CHARGE INVOICE NO. I 25656

SALES CAT. 1 SALESMAN 11

SHIPPED TO Huntington Ore
Same

PRODUCT NO CODE
1 BEARINGS
2 POWER TRANSMISSIONS
3 MATERIALS HANDLING
4 MISCELLANEOUS

SALES CATEGORY CODE
1 RESALE
2 INTERSTATE
3 STATE & LOCAL GOVT
4 U S GOVERNMENT
6 NON-TAXABLE LABOR
7 STATE TAXABLE
8 STATE & LOCAL TAXABLE
9 MISC TAXABLE

SHIPPED VIA

BILL OF LADING NO.

FREIGHT BUS ☐ TRUCK ☐ PARCEL POST ☐ EXPRESS RAIL ☐ AIR ☐ PICK UP ☐ DEL'D ☐

[illegible]	[illegible]	[illegible]	QUANTITY ORDERED	B.O.	SHIPPED	ITEM	ITEM CODE	UNIT PRICE	DISCOUNT %	NET UNIT PRICE	[illegible]
		1	2	0	2	3720 Timken		1 43		2 86	2 86
			2	0	2	3782 -		3 18		6 36	6 36
			2	0	2	HM 212011 -		6 21		12 42	12 42
			2	0	2	HM 212044 -		3 33		6 66	6 66
											28 30

BILLED BY

PACKED BY

A 10% handling or restocking charge, after inspection and opinion of the seller, can be made upon all merchandise returned for credit. Merchandise returned for credit must be returned within a 7 day period and accompanied by our Invoice Number and date of purchase.

The maximum legal rate of interest and collection costs and legal fees will be charged on all past due accounts.

ACCEPTED AND RECEIVED BY

SUB-TOTALS	
SALES TAX	
TOTAL	28 30

BRANCH CUSTOMER FILE

Thank You

Ball and Roller Bearings - Pillow Blocks - Oil Seals - Belts and Sheaves - Chain and Sprockets - Speed Reducers - Flexible Couplings - Conveyor Equipment

THE BEARING MAN

WESTERN BEARINGS, INC.

Bearing and Power Transmission Specialists

520 FRONT STREET PHONE 342-6583 BOISE, IDAHO	191 LOMAX STREET PHONE 523-6811 IDAHO FALLS, IDAHO	2211 HIWAY 30 WEST PHONE 233-0762 POCATELLO, IDAHO	150 N. OVERLAND PHONE 678-9031 BURLEY, IDAHO	223 4TH AVE. WEST PHONE 733-8562 TWIN FALLS, IDAHO	368 S.E. 2ND ST. PHONE 889-9143 ONTARIO, OREGON

MAIL ALL REMITTANCES ⊙
P.O. BOX 8223
BOISE, IDAHO 83707

SOLD TO
07 251821
ROY L. HOUCK SONS CORP.
P. O. BOX 671
SALEM, OREGON 97301

CUSTOMER ORDER NUMBER 6846-38690
DATE 9-19-69
REQUISITION NUMBER
TERMS 1% 10th
CORP. 07
BRANCH 2

CHARGE INVOICE NO. I 25812
SALES CAT. 1
SALESMAN 11
SHIPPED TO Same

PRODUCT NO CODE
1 BEARINGS
2 POWER TRANSMISSION
3 MATERIALS HANDLING
4 MISCELLANEOUS

SALES CATEGORY CODE
1 RESALE
2 INTERSTATE
3 STATE & LOCAL GOVT
4 U S GOVERNMENT
6 NON-TAXABLE LABOR
7 STATE TAXABLE
8 STATE & LOCAL TAXABLE
9 MISC TAXABLE

SHIPPED VIA direct
BILL OF LADING NO. B1275
FREIGHT BUS ☐ TRUCK ☐
PARCEL POST ☐
EXPRESS RAIL ☐ AIR ☐
PICK UP ☐
DEL'D ☐

[illegible]	[illegible] CODE	[illegible]	ORDERED	[illegible]	SHIPPED	ITEM	ITEM CODE	UNIT PRICE	DISCOUNT	NET UNIT PRICE	GROSS TOTAL
		1	1	0	1	6308-2 SKF			net		5 78

PACKED BY

A 10% handling or restocking charge, after inspection and opinion of the seller, can be made upon all merchandise returned for credit.
Merchandise returned for credit must be returned within a 7 day period and accompanied by our Invoice Number and date of purchase.
The maximum legal rate of interest and collection costs and legal fees will be charged on all past due accounts.

ACCEPTED AND RECEIVED BY

SUB-TOTALS	
SALES TAX	
TOTAL	5.78

CUSTOMER FILE

Thank You

Ball and Roller Bearings - Pillow Blocks - Oil Seals - Belts and Sheaves - Chain and Sprockets - Speed Reducers - Flexible Couplings - Conveyor Equipment

243066

WESTERN BEARINGS, INC.

Bearing and Power Transmission Specialists

520 FRONT STREET
PHONE 342-6593
BOISE, IDAHO

191 LOMAX STREET
PHONE 523-6811
IDAHO FALLS, IDAHO

2211 HIWAY 30 WEST
PHONE 233-0762
POCATELLO, IDAHO

150 N. OVERLAND
PHONE 678-9031
BURLEY, IDAHO

223 4TH AVE. WEST
PHONE 733-8562
TWIN FALLS, IDAHO

368 S.E. 2ND ST.
PHONE 889-9143
ONTARIO, OREGON

CUSTOMER ORDER NUMBER	6846-38727
DATE	9-18-69
REQUISITION NUMBER	
TERMS	1% 10th
CORP	07
BRANCH	2

CREDIT MEMO NO. CMI 01238

SALES CAT. 1 SALESMAN 11

SHIPPED TO

Sam

SOLD TO
07 251821
ROY L. HOUCK SONS CORP.
P. O. BOX 671
SALEM, OREGON 97301

SHIPPED VIA
BILL OF LADING NO
FREIGHT BUS ☐ TRUCK ☐ PARCEL POST ☐ EXPRESS RAIL ☐ AIR ☐ PICK UP ☒ DEL'D ☐

ITEM NO.	UNIT CODE	[illegible]	QUANTITY ORDERED	B.O.	SHIPPED	ITEM	ITEM CODE	UNIT PRICE	DISCOUNT %	NET UNIT PRICE	GROSS TOTAL
						Returned for Credit					
						Ref invoice #25632					
		1	1	0	1	55172 TROSTEL					296

PRODUCT NO. CODE
1 BEARINGS
2 POWER TRANSMISSION
3 MATERIALS HANDLING
4 MISCELLANEOUS

SALES CATEGORY CODE
1 RESALE
2 INTERSTATE
3 STATE & LOCAL GOVT
4 U S GOVERNMENT
6 NON-TAXABLE LABOR
7 STATE TAXABLE
8 STATE & LOCAL TAXABLE
9 MISC TAXABLE

BILLED
EXPEDITED
BY

A 10% handling or restocking charge, after inspection and opinion of the seller, can be made upon all merchandise returned for credit.
Merchandise returned for credit must be returned within a 7 day period and accompanied by our Invoice Number and date of purchase.

The maximum legal rate of interest and collection costs and legal fees will be charged on all past due accounts.

ACCEPTED AND RECEIVED BY ____________

SUB-TOTALS	
SALES TAX	
TOTAL	296

CREDIT MEMO

Thank You

Ball and Roller Bearings - Pillow Blocks - Oil Seals - Belts and Sheaves - Chain and Sprockets - Speed Reducers - Flexible Couplings - Conveyor Equipment

WESTERN BEARINGS, INC.

Bearing and Power Transmission Specialists

520 FRONT STREET PHONE 342 6583 BOISE, IDAHO	191 LOMAX STREET PHONE 523 6811 IDAHO FALLS, IDAHO	2211 HIWAY 30 WEST PHONE 233-0762 POCATELLO, IDAHO	150 N. OVERLAND PHONE 678-9031 BURLEY, IDAHO	223 4TH AVE. WEST PHONE 733-8562 TWIN FALLS, IDAHO	368 S.E. 2ND ST. PHONE 889-9143 ONTARIO, OREGON

MAIL ALL REMITTANCES TO
P.O. BOX 8223
BOISE, IDAHO 83707

CUSTOMER ORDER NUMBER	6841-38159	DATE	9-20-69
REQUISITION NUMBER		TERMS	1%. 10th
CORP. 07	BRANCH 2		

CHARGE
INVOICE NO. I 25819

SALES CAT. 1 SALESMAN 11

SHIPPED TO Huntington Ore

PRODUCT NO. CODE
1 BEARINGS
2 POWER TRANSMISSION
3 MATERIALS HANDLING
4 MISCELLANEOUS

SALES CATEGORY CODE
1 RESALE
2 INTERSTATE
3 STATE & LOCAL GOV
4 U S GOVERNMENT
6 NON-TAXABLE LABOR
7 STATE TAXABLE
8 STATE & LOCAL TAXAB
9 MISC TAXABLE

SOLD TO
07 251821
ROY L. HOUCK SONS CORP.
P. O. BOX 671
SALEM, OREGON 97301

SHIPPED VIA

BILL OF LADING NO.

FREIGHT: BUS ☐ TRUCK ☐ PARCEL POST ☐ EXPRESS: RAIL ☐ AIR ☐ PICK UP ☑ DEL'D ☐

[illegible]	[illegible] CODE	[illegible]	QUANTITY ORDERED	B/O	SHIPPED	ITEM	ITEM CODE	UNIT PRICE	DISCOUNT %	NET UNIT PRICE	GROSS TOTAL
		1	1	0	1	22313 cy/c3 Luf					47 44

BILLED BY

PACKED BY

A 10% handling or restocking charge, after inspection and opinion of the seller, can be made upon all merchandise returned for credit.
Merchandise returned for credit must be returned within a 7 day period and accompanied by our Invoice Number and date of purchase.
The maximum legal rate of interest and collection costs and legal fees will be charged on all past due accounts.

ACCEPTED AND RECEIVED BY

SUB-TOTALS	
SALES TAX	
TOTAL	47.44

BRANCH CUSTOMER FILE

Thank Yo

Ball and Roller Bearings - Pillow Blocks - Oil Seals - Belts and Sheaves - Chain and Sprockets - Speed Reducers - Flexible Couplings - Conveyor Equipment

243066

WESTERN BEARINGS, INC.

Bearing and Power Transmission Specialists

520 FRONT STREET, PHONE 342-6583, BOISE, IDAHO
191 LOMAX STREET, PHONE 523-6811, IDAHO FALLS, IDAHO
2211 HIWAY 30 WEST, PHONE 233-0762, POCATELLO, IDAHO
130 N. OVERLAND, PHONE 678-9031, BURLEY, IDAHO
223 4TH AVE. WEST, PHONE 733-8562, TWIN FALLS, IDAHO
368 S.E. 2ND ST, PHONE 889-9143, ONTARIO, OREGON

MAIL ALL REMITTANCES TO
P. O. BOX 8223
BOISE, IDAHO 83707

SOLD TO
07 251821
ROY L. HOUCK SONS CORP.
P. O. BOX 671
SALEM, OREGON 97301

CUSTOMER ORDER NUMBER	6846-38764
DATE	9-23-69
REQUISITION NUMBER	
TERMS	1% 10th
CORP.	07
BRANCH	2
CHARGE INVOICE NO.	I 25846
SALES CAT.	1
SALESMAN	11
SHIPPED TO	Same

SHIPPED VIA
BILL OF LADING NO.
FREIGHT: BUS ☐ TRUCK ☐ PARCEL POST ☐ EXPRESS: RAIL ☐ AIR ☐ PICK UP ☒ DEL'D ☐

[illegible]	[illegible]	[illegible]	QUANTITY ORDERED	QUANTITY [illegible]	QUANTITY SHIPPED	ITEM	ITEM CODE	UNIT PRICE	DISCOUNT %	NET UNIT PRICE	GROSS [illegible]
		1	1	0	1	G1115 KRRB [illegible]				797	797

SUB-TOTALS	
SALES TAX	
TOTAL	7,97

BILLED BY
PACKED BY

A 10% handling or restocking charge, after inspection and opinion of the seller, can be made upon all merchandise returned for credit.
Merchandise returned for credit must be returned within a 7 day period and accompanied by our Invoice Number and date of purchase.
The maximum legal rate of interest and collection costs and legal fees will be charged on all past due accounts.

ACCEPTED AND RECEIVED BY

CUSTOMER FILE

Thank Yo

PRODUCT NO. COD
1 BEARINGS
2 POWER TRANSMISSIO
3 MATERIALS HANDLIN
4 MISCELLANEOUS

SALES CATEGORY CO
1 RESALE
2 INTERSTATE
3 STATE & LOCAL GOV
4 U. S. GOVERNMENT
6 NON-TAXABLE LABO
7 STATE TAXABLE
8 STATE & LOCAL TAXAB
9 MISC. TAXABLE

Ball and Roller Bearings - Pillow Blocks - Oil Seals - Belts and Sheaves - Chain and Sprockets - Speed Reducers - Flexible Couplings - Conveyor Equipment

243036

WESTERN BEARINGS, INC.

Bearing and Power Transmission Specialists

520 FRONT STREET PHONE 342-6583 BOISE IDAHO	191 LOMAX STREET PHONE 523-6811 IDAHO FALLS IDAHO	2211 HIWAY 30 WEST PHONE 233-0762 POCATELLO IDAHO	150 N. OVERLAND PHONE 678-9031 BURLEY IDAHO	223 4TH AVE. WEST PHONE 733-8562 TWIN FALLS, IDAHO	368 S.E. 2ND ST PHONE 889-9143 ONTARIO, OREGON

MAIL ALL REMITTANCES TO
P. O. BOX 8223
BOISE, IDAHO 83707

SOLD TO
07 251821
ROY L. HOUCK SONS CORP.
P. O. BOX 671
SALEM, OREGON 97301

CUSTOMER ORDER NUMBER	6846-38727
DATE	9-25-69
REQUISITION NUMBER	
TERMS	1% 10th
CORP.	07
BRANCH	2
SALES CAT.	1
SALESMAN	11

CHARGE INVOICE NO. I 25910

SHIPPED TO
Same
HUNTINGTON OREGON

PRODUCT NO. CODE
1 BEARINGS
2 POWER TRANSMISSION
3 MATERIALS HANDLING
4 MISCELLANEOUS

SALES CATEGORY CODE
1 RESALE
2 INTERSTATE
3 STATE & LOCAL GOVT
4 U. S. GOVERNMENT
6 NON-TAXABLE LABOR
7 STATE TAXABLE
8 STATE & LOCAL TAXABLE
9 MISC TAXABLE

SHIPPED VIA

BILL OF LADING NO ST 01339

FREIGHT: BUS ☐ TRUCK ☐ PARCEL POST ☐ EXPRESS: RAIL ☐ AIR ☐ PICK UP ☒ DEL'D ☐

[illegible]	[illegible]	[illegible]	QUANTITY ORDERED	[illegible]	SHIPPED	ITEM	ITEM CODE	UNIT PRICE	DISCOUNT %	NET UNIT PRICE	GROSS TOTAL
		1	1	0	1	55272 TROSTEL				2,22	2.22

[illegible]

MAILED BY

PACKED BY

A 10% handling or restocking charge, after inspection and opinion of the seller, can be made upon all merchandise returned for credit.
Merchandise returned for credit must be returned within a 7 day period and accompanied by our Invoice Number and date of purchase.

The maximum legal rate of interest and collection costs and legal fees will be charged on all past due accounts.

ACCEPTED AND RECEIVED BY

SUB-TOTALS	
SALES TAX	
TOTAL	2.22

CUSTOMER FILE

Thank You

Ball and Roller Bearings - Pillow Blocks - Oil Seals - Belts and Sheaves - Chain and Sprockets - Speed Reducers - Flexible Couplings - Conveyor Equipment

THE BEARING MAN

WESTERN BEARINGS, INC.

Bearing and Power Transmission Specialists

520 FRONT STREET PHONE 342-6533 BOISE, IDAHO	191 LOMAX STREET PHONE 523-6811 IDAHO FALLS, IDAHO	2211 HIWAY 30 WEST PHONE 233-0762 POCATELLO IDAHO	150 N. OVERLAND PHONE 678-9031 BURLEY, IDAHO	223 4TH AVE. WEST PHONE 733-8562 TWIN FALLS, IDAHO	368 S.E. 2ND ST PHONE 889-9143 ONTARIO, OREGON

MAIL ALL REMITTANCES TO:
P. O. BOX 8223
BOISE, IDAHO 83707

SOLD TO
07 251821
ROY L. HOUCK SONS CORP.
P. O. BOX 671
SALEM, OREGON 97301

CUSTOMER ORDER NUMBER 6846-38813
DATE 10-26-69
REQUISITION NUMBER
TERMS [illegible] 10th
CORP. 07
BRANCH 2

CHARGE INVOICE NO. I 26413
SALES CAT. 1
SALESMAN 11
SHIPPED TO Same Huntington Rt #1

PRODUCT NO. CODE
1 BEARINGS
2 POWER TRANSMISSION
3 MATERIALS HANDLING
4 MISCELLANEOUS

SALES CATEGORY CODE
1 RESALE
2 INTERSTATE
3 STATE & LOCAL GOVT
4 U S GOVERNMENT
6 NON-TAXABLE LABOR
7 STATE TAXABLE
8 STATE & LOCAL TAXABLE
9 MISC TAXABLE

SHIPPED VIA
BILL OF LADING NO.
FREIGHT: BUS ☐ TRUCK ☐
PARCEL POST ☑
EXPRESS: RAIL ☐ AIR ☐
PICK UP ☐
DEL'D ☐

[illegible]	PROD CODE	[illegible]	QUANTITY ORDERED	B. ORD.	SHIPPED	ITEM	ITEM CODE	UNIT PRICE	DISCOUNT %	NET UNIT PRICE	GROSS AMOUNT
		1	1	0	1	3302 N.D.				212	212
											212
						555 PARCEL POST + 11/S					28

SUB-TOTALS	
SALES TAX	
TOTAL	2.40

BILLED BY
PACKED BY

A 10% handling or restocking charge, after inspection and opinion of the seller, can be made upon all merchandise returned for credit.
Merchandise returned for credit must be returned within a 7 day period and accompanied by our Invoice Number and date of purchase.
The maximum legal rate of interest and collection costs and legal fees will be charged on all past due accounts.

ACCEPTED AND RECEIVED BY ____________

BRANCH CUSTOMER FILE

Thank You

Ball and Roller Bearings - Pillow Blocks - Oil Seals - Belts and Sheaves - Chain and Sprockets - Speed Reducers - Flexible Couplings - Conveyor Equipment

243056

C

RECEIVED
MAY 22 1970

Claim 4512

FILED
MAY [illegible] 1970
CLAY MYERS
SECRETARY OF STATE

1859

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

May 4, 1970

Basche-Sage Hardware Co.
P. O. Box 151
Baker, Oregon 97814

Gentlemen:

This is to acknowledge receipt of your letter of April 24 and attached statement with invoices advising that Roy Houck Corporation owes you for supplies in the amount of $52.48.

This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty and Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract which is given to assure completion of the job and payment of all bills incurred in it.

We will advise the surety, agent, and the principal contractor of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

ORIGINAL SIGNED
FLOYD QUERY

5-13-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

RECEIVED
STATE HIGHWAY COMMISSION

cc: The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation
Commission
Hon. Clay Myers - Please acknowledge receipt of this claim on the enclosed copy of this letter.

NOTED
C. W. HEAD

AUTOMOTIVE · FARM · HOUSEWARE · PLUMBING · SPORTING GOODS · HEAVY & SHELF HARDWARE

ESTABLISHED IN 1875

BASCHE-SAGE Hardware Company

POST OFFICE BOX 151 • PHONE 523-3636 • BAKER, OREGON

April 24, 1970

Oreson State Highway Dept.
Salem, Oregon

Att: Floyd Query

Dear Sir,

Enclosed you will find a billing for Roy Houck Corp. which is still showing outstanding in our Accounts Receivable. We have sent numerous billings to them with no results. These were purchased while working on the Lime Section #7185.

Can you please help us obtain our money from this account?

Thank you,

Yours truly,
Betty Shuck
Betty Shuck
Acct. Rec.

bjs

NOTED
FLOYD QUERY

NOTED
G. W. HEAD

AUTOMOTIVE · FARM · HOUSEWARE · PLUMBING · SPORTING GOODS · HEAVY & SHELF HARDWARE

ESTABLISHED IN 1875

BASCHE-SAGE Hardware Company

POST OFFICE BOX 151 · PHONE 523-3636 · BAKER, OREGON

April 24, 1970

Oreson State Highway Dept.
Salem, Oregon

Att: Floyd Query

Dear Sir,

Enclosed you will find a billing for Roy Houck Corp. which is still showing outstanding in our Accounts Receivable. We have sent numerous billings to them with no results. These were purchased while working on the Lime Section #7185.

Can you please help us obtain our money from this account?

Thank you,

Yours truly,
Betty Shuck
Betty Shuck
Acct. Rec.

bjs

NOTED
FLOYD QUERY

[illegible] 1970

NOTED
C. W. HEAD

STATEMENT

AUTOMOTIVE • FARM • HOUSEWARE • PLUMBING • SPORTING GOODS • HEAVY & SHELF HARDWARE

ESTABLISHED IN 1875

BASCHE-SAGE Hardware Company

POST OFFICE BOX 767 • PHONE 523-3636 • BAKER, OREGON 97814

Roy Houck Corp.
P.O. Box 671
Salem, Ore.

Date	Reference	Charges	Payments & Credit Memos	Previous Balance
AUG 21'69		20.08		20.08
SEP 4'69		32.40		52.48

Statements Rendered Monthly Whether Account Is Due or Not.
Any Charges or Credits After Last Entry Will Show on Next Statement.
A Delinquent Charge of 1½% Per Month (18% PER YEAR) Will Be
Charged on Balance Over 30 Days.

Last Item In This Column Is New Balance Due

MOORE BUSINESS FORMS INC., LA

ESTABLISHED IN [illegible]

BASCHE-SAGE Hardware Company

Post Office Box 151 | Phone 523 3636 | BAKER, OREGON 97814

CUSTOMERS ORDER NO 6846- 38688 DATE 196

M Roy S Houck

ADDRESS Box 671 Salem Ore

SOLD BY	CASH	C.O.D.	CHARGE
hj			✓

QUAN.	DESCRIPTION	UNIT	PRICE EA.	EXTENSION	DISCT	AMOUNT
100	only 6' elect caps					30 40
	service chg					2 00
						32 40
	chg					
						32 40

SEP 4 1969

THIS IS YOUR INVOICE
NO OTHER ISSUED

All claims and returned goods MUST be accompanied by this bill.

NO. 111619 Received by

OFFICE COPY

ESTABLISHED IN 1875

BASCHE-SAGE Hardware Company

Post Office Box 151 | Phone 523-3636 | BAKER, OREGON 97814

CUSTOMER'S ORDER NO. 6846-38648 DATE 8-20 1969

M Ray L. Houck

ADDRESS P.O. Box 671
Salem Oregon.

SOLD BY	CASH	C. O. D.	CHARGE	
Bm			X	

QUAN.	DESCRIPTION	UNIT	PRICE EA.	EXTENSION	DISCT.	AMOUNT
1	only #102 3/8 Plug tap		2 20			2 20
50#	1¼ x 8 45% Gelex #2		30 50c			15 25
3	only 3/8 x 1½ allen head cap screws		11ea.			33
3	only 5/16 x 1½ allen head cap screws		10ea.			30
	Less Magazine Charge					2 00
	THIS IS YOUR INVOICE NO OTHER ISSUED					20

AUG 21 1969

ALL claims and returned goods MUST be accompanied by this bill

NO. 58048 Received by George B. Larsen

LARCO INC.

OFFICE COPY

Files

Claim 4311

RECEIVED
MAY 22 1970
FOR FILING

FILED
MAY - 1970
CLAY MYERS
SECRETARY OF STATE

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

May 4, 1970

Peacock Lumber Company
Alicel,
Oregon 97811

Gentlemen:

This is to acknowledge receipt of your claim letter of April 23 informing us that Roy L. Houck, contractor, owes you for lumber in the amount of $90.

This appears to be in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty and Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract which is given to assure completion of the job and payment of all bills incurred in it.

We will advise them of the receipt of your claim and we will also forward it to the Secretary of State for filing.

Please advise this office when your claim has been paid.

Very truly yours,

ORIGINAL SIGNED
FLOYD QUERY

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

NOTED
5-13-70 CR

cc: The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation
Commission
Hon. Clay Myers - Please acknowledge receipt of this claim on the enclosed copy of this letter.

NOTED
C. W. HEAD

Alicel, Oregon
April 23, 1970

Benny Updegraff Ins. Inc.
776 Commercial S. E.
Salem, Oregon 97302

Dear Sir:

It is our understanding you are the Bonding Agent for Roy L. Houck, contractor, address P O Box 671, Salem, Oregon.

On August 25, 1969 they purchased from us lumber in the amount of $ 90.00, order # 6846 - 38642. This was used on the contract # 7185 - Lime Section on the highway between Baker and Ontario in Oregon.

Will you please give this your immediate attention.

Very Truly Yours,

PEACOCK LUMBER COMPANY
ALICEL, OREGON 97811

RECEIVED
MAY 6 - 1970

OREGON STATE
HIGHWAY DEPARTMENT

DIVISION 5

P. O. BOX 850 • LA GRANDE, OREGON • 97850 • Phone 963-3177

TOM McCALL
GOVERNOR

I-80N-7(25)341

May 4, 1970

Roy L. Houck Sons' Corporation
1158 Chemeketa St. N. E.
P. O. Box 671
Salem, Oregon 97308

Gentlemen:

RE: Lime Section Contract No. 7185
Old Oregon Trail Highway, Baker County

Refer to your letter of April 30 requesting information concerning the calendar workday extension granted on the subject project.

We do not have the information that you requested. The calendar workday extensions are a prerogative of the Oregon State Highway Commission, and it is suggested that you contact the Secretary of the Highway Commission if you wish to pursue this further.

Yours very truly,

H. S. Coulter
Division Engineer

By

Alfred Shirley Jr

Alfred Shirley, Jr.
Assistant Division Engineer

AS:sh

bc Floyd Query
F. D. Morgan
E. S. Thompson

NOTED
FLOYD QUERY

ROY L. HOUCK SONS' CORPORATION
Heavy Construction Contracting
1158 CHEMEKETA ST. N.E. SALEM, OREGON 97308
P.O. BOX 671 PHONE 585-5950
"AN EQUAL OPPORTUNITY EMPLOYER"

MAY 1 - 1970
REC'D DIV. OFFICE
LA GRANDE

April 30, 1970

NOTED
A. SHIRLEY

H. S. Coulter, District Engineer
Oregon State Highway Department
La Grande, Oregon 97859

RE: Oregon State Highway Contract #7185
Old Oregon Trail - Lime Section

Dear Sir:

Would you please send us information regarding the breakdown of your determination of Calendar Workday Extension requests amounting to 29 days previously approved on this Project.

We request and require such information in order that we may request additional calendar workday extension regarding associated and similar circumstances.

Thank you for your cooperation.

Yours very truly,

ROY L. HOUCK SONS' CORPORATION

James E. Houck
Secretary

JEH:nk

OREGON STATE
HIGHWAY DEPARTMENT
Ontario, Oregon 97914
April 28, 1970

APR 29 1970
REC'D DIV. OFFICE
LA GRANDE

Roy L. Houck Sons' Corporation
P. O. Box 671
Salem, Oregon 97308

RE: Lime Section
Old Oregon Trail Highway
Contract No. 7185

Attention: Mr. James E. Houck

Dear Sir;

We have your letter of April 27th., requesting a breakdown of the determination of Calendar Workday Extension recently granted in the amount of 29 days.

I am sorry to report that we can not be of help to you in this matter since our Construction Division does not report to us the conditions by which they apparently made recommendations for the 29 day extension.

Very truly yours;

E S Thompson

E. S. Thompson
Resident Engineer

cc: H. S. Coulter
EST:tp

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

RECEIVED
MAY 5 - 1970

April 27, 1970

E. L. Stevenson Electric
Box 27
Huntington, Oregon 97907

I-80N-7(26)341
7185

RECEIVED
Apr 28 2 06 PM '70
CLAY MYERS
SECRETARY OF STATE

Gentlemen:

This is to acknowledge receipt of your letter of April 20 advising us that Stach Construction Company owes you $559.35 for material and labor. You also mention that Roy L. Houck and Sons owes you for materials and labor in the amount of $192.30. These claims appear to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract which is given to assure completion of the contract and payment of all bills incurred in it. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

[illegible] CARD
4-30-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

4499

FILED
APR 28 1970
CLAY MYERS
SECRETARY OF STATE

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation

bc ✓Commission
✓Secretary of State

- Please acknowledge receipt of this claim on the enclosed copy of this letter.

April 20, 1970

Mr. Floyd Query
State Hi-Way Building
Salem, OR 97310

Dear Mr. Query:

On June 9, 1969, I billed Stack Construction Company $223.35. This was for material and labor on Interstate 80 North at Lime, Oregon. On August 10, 1969, additional material and labor totaled $336.00. Neither of these bills have been paid which come to a total of $559.35.

On December 19,1969, I did work for Roy L. Houch & Son of which I have not yet received payment. Materials and labor total $192.30 for Roy L. Houch & Son.

Could you be of assistance in collecting these bills? I would appreciate anything you could do.

Sincerely yours,

E. L. Stevenson

E. L. Stevenson
Stevenson Electric
Box 27
Huntington, Oregon 97907

NOTED
FLOYD QUERY

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

Claim 450

FILED
CLAY MYERS

RECEIVED
APR 28 2 02 PM '70
CLAY MYERS
SECRETARY OF STATE

RECEIVED
MAY 5 - 1970

April 27, 1970

Gravel Products
112 N.W. 8th Street
Ontario, Oregon 97914

I-80N-7([illegible]) 341
7185

Gentlemen:

This is to acknowledge receipt of your letter of April 10 and attached statement showing that Stach Construction Company, Subcontractor, owes you for truck rental in the amount of $144. This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract which is given to assure completion of the contract and payment of all bills incurred in it. We will advise them of the receipt of your claim and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

ON FILE ON CARD
4-30-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation

bc Commission
Secretary of State

RECEIVED
[illegible]
STATE HIGHWAY COMMISSION

- Please acknowledge receipt of this claim on the enclosed copy of this letter.

[illegible]
E. W. HEAD

112 N. W. 8th Street Phone TU 9-5169

GRAVEL PRODUCTS
WASHED SAND & GRAVEL, CRUSHED ROCK & FILL
ONTARIO, OREGON

4-10-70

Mr. Floyd Query - Sect.
Oregon State Hiway Comm.

Dear Sirs

Enclosed Please Find Statement For Services Performed For Stoch Const. Co.

We Were Advised To Make This Matter Of Record With Your Office, So That You Will Be Aware of This Obligation Prior To your Final "Settlement" With The Contractors

Yours Truly

A.R. Field

NOTED
FLOYD QUERY

STATEMENT

ONTARIO, OREGON, 4-1-70, 19

In Account With

GRAVEL PRODUCTS

WASHED SAND & GRAVEL, CRUSHED ROCK & FILL

Phone 889-5169 **115 N. E. 1st**

Stach Construction Co.
Box 383
Ontario Oregon

6-19-69 # 6707 144^{00}

The Above Represents 16 Hours Truck Rental
@ 9^{00} Per Hour

[illegible]

This Work Was on Lime Section of 80 N
in Connection With The Above's Sub Contract
on Bridge From R.L. Houck & Sons Inc. Contract
7185, Payment For The Above Has Not Been Received
Gravel Products Inc. By A.R. Fidels

**OREGON STATE
HIGHWAY DIVISION**

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

RECEIVED
MAY 5 - 1970

April 27, 1970

Mr. Donald M. McLean
Box 403
Huntington, Oregon 97907

I-8011-7 251341
7186

Claim 450
FILED
APR 28 1970
CLAY MYERS
SECRETARY OF STATE

RECEIVED
Apr 28 2 05 PM '70
CLAY MYERS
SECRETARY OF STATE

Dear Mr. McLean:

This is to acknowledge receipt of your recent letter and attached copy of your statement informing us that Roy L. Houck Sons' Corporation owes you for backhoe rental in the amount of $258. This appears to be in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

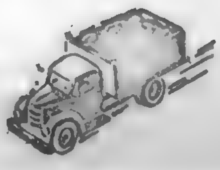
4-30-70 cR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation

bc Commission
Secretary of State

- Please acknowledge receipt of this claim on the enclosed copy of this letter.



DONALD M. McLEAN
CONTRACTOR
PHONE 869-4801 BOX 403
HUNTINGTON, OREGON

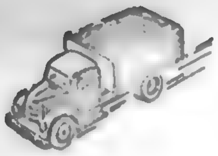
Ore. State Highway Commission
% Mr. Floyd Query Sec.
State Highway Building
Salem, Oregon
Contract 7185

Dear Sir:

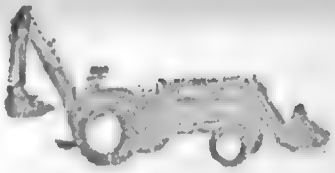
I would like to file this claim with your office against Roy L. Houck Son's Corp. for Backhoe Rental $258.00 Contract No. 7185. Enclosed is duplicate copy of statement.

Respectfully yours,

Donald M. McLean



DONALD M. McLEAN
CONTRACTOR
BOX 403 PHONE 869-4801
HUNTINGTON, OREGON



______________ 19____

____

____

____

QUANTITY	DESCRIPTION	PRICE	AMOUNT

Duplicate Copy

RECEIVED
APR [illegible] 1970
OREGON
STATE HIGHWAY COMMISSION

C

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

April 27, 1970

MAY 5 - 1970

Durablock Company
695 Campbell Street
Baker, Oregon 97814

ISCN [illegible] 541
7145

4507

FILED
APR 2 9 1970
CLAY MYERS
SECRETARY OF STATE

RECEIVED
APR 28 2 02 PM '70
CLAY MYERS
SECRETARY OF STATE

Gentlemen:

This is to acknowledge receipt of your letter of April 13 and attached statement indicating that Stach Construction Company, Subcontractor, owes you for material in the amount of $2,973.10. This appears to be in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract. We will advise them of the receipt of your claim and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

NOTED ON CARD
4-30-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation

bc Commission
✓Secretary of State

RECEIVED
APR 29 1970
OREGON
STATE HIGHWAY COMMISSION

- Please acknowledge receipt of this claim on the enclosed copy of this letter.

LISTED
C. W. HEAD

TO State Highway Department
Floyd Query, Secretary
State Highway Commissi
State Highway Department Building
Salem, Oregon 97310

FROM

DURABLOCK CO.
695 CAMPBELL ST.
BAKER, OREGON
PHONE: JA 3-2716

SUBJECT:

DATE: 4-13-70

FOLD ↑

Durablock Company would like to file claim for any monies ($2,973.10) on R. L. Houck's project on which Stach Construction Company is a subcontractor. The material went on the job 2-9-70 to 3-31-70 (see attached billing statement) on Interstate Highway 80N at Lime, Oregon. This material was furnished to Stach Construction on the R. L. Houck project - Project - P. O. No. 565 - Job No. OSHD, Contract 7185.

NOTED
FLOYD QUERY

(attachment)

PLEASE REPLY TO ⟶ SIGNED Durablock Company By: Louis L. Townsend

STATE HIGHWAY COMMISSION

DATE | SIGNED

SEND WHITE AND PINK COPIES WITH CARBONS INTACT. PINK COPY IS RETURNED WITH REPLY.

GRAYARC CO., BROOKLYN 32, N. Y.

STATEMENT

DURABLOCK CO.
695 CAMPBELL ST.
BAKER, OREGON 97814
Phone: 523-2716

Copy

DATE 4-1-70

Stach Construction Company
P. O. Box 730
Grants Pass, Oregon

DETACH AND MAIL WITH YOUR CHECK. YOUR CANCELLED CHECK IS YOUR RECEIPT.

2-9-70	Invoice No. 1152	$ 17.90
2-23-70	1262	270.26
2-23-70	1261	270.26
2-24-70	1264	270.26
3-3-70	1168	270.26
3-3-70	1169	270.26
3-4-70	1171	270.26
3-4-70	1170	315.30
3-4-70	1173	270.26
3-5-70	1172	315.30
3-6-70	1174	292.78
3-31-70	1194	242.20
	Credit of	$ 102.00
	Balance Due	$2,973.30

A FINANCE CHARGE OF 1½% PER MONTH, 18% PER YEAR, WILL BE CHARGED ON ACCOUNTS 30 DAYS PAST DUE.

P. O. No. 665
Job No. OSHD
Contract 7185

RECEIVED
MAY 22 1970
[illegible]

1859

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

I-80N-7(25)341

April 24, 1970

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage Street, N.E.
Salem, Oregon 97301

Contract 7185
Prefix 601-1065
FAP I-80N-7(25)341

NOTED
E. B. KLABOE

Dear Sir:

The work under Contract No. 7185, Lime Section of the Old Oregon Trail Highway in Baker County, was completed on April 21, 1970.

We request that your office inspect the contract work and return two signed copies of this letter indicating acceptance or listing below any items or conditions of the contract which would prevent your final acceptance of the contract work.

Very truly yours,

Forrest Cooper
State Highway Engineer

By F D Morgan
F. D. Morgan
Construction Engineer

Bureau of Public Roads
Oregon Division Office Endorsement Date 5-13-70

Conditions noted on above date:

NONE

for Walach
R. E. Simpson
Division Engineer

RECEIVED
MAY 2 [illegible]
OFFICE OF
STATE HIGHWAY ENGINEER

VG:fw
cc Forrest Cooper
F. D. Morgan

RECEIVED
MAY 5 - 1970
FOR FILING

I-8 [illegible]

20 April 1970

Roy L. Houck Sons' Corporation
P.O. Box 671
Salem, Oregon 97308

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

#7185

Subject: Balance Due on your account: $1566.23
Your check in amount $1213.01

Gentlemen:

We are in receipt of subject check applying to your account. We note that you have deducted from the amount due, credits in the amount of $10.47 and $152.80. You were given credit for the $10.47 quite some time prior to the amount shown above in our balance, also the credit in amount $152.80 was previously deducted from the balance due.(see copy of letter to Mr. Lambie, attached).

We also note that you have not included the interest due on this old old account (which was figured only up to and including the 28th of February) in amount $78.45, and which is a legitimate charge.

Inasmuch as you have deducted above referenced credits in error and have not included the interest due on this account, we cannot accept this check as payment in full of this account. We are therefore, returning it to you and requesting a check in full in amount shown above in payment of this balance.

Your prompt attention to this will be appreciated.

Yours very truly,

SPOKANE CULVERT AND FABRICATING COMPANY

C. M. Carr
Credit Manager

CMC:c
Encl: Check No 10180 and Copy of Our Letter to Mr. Lambie
cc: Aetna Casualty and Surety Co. Updegraff Ins. Inc.
Floyd Query, Secretary
Oregon State Highway Commission

NOTED
FLOYD QUERY

RECEIVED
OREGON
STATE HIGHWAY COMMISSION

COPY

Files

RECE
MAY 5

FOR

[illegible]
1185

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
April 20, 1970

RAILROAD COMPANIES
FILE No. 665

To: Mr. Floyd Query
Secretary
Oregon State Highway Commission
BUILDING

SUBJECT: R/W File 37263
PUX 672 SXF 432
Haul Road Agreement
Union Pacific Railroad Company
Lime Section
Old Oregon Trail Highway
Baker County

Attached you will find one copy of the subject agreement.

The State's original fully executed counterpart has been handed to Velda DeGuire in Mr. Saling's office for processing, after which it will be forwarded to your office for your permanent records.

Distribution of conformed copies has been made as indicated below.

T. W. Litchfield
Utilities Liaison Engineer

ss

cc: F. B. Klaboe
F. D. Morgan (w/agreement)
I. D. Merchant "
H. S. Coulter "
E. S. Thompson "
R. N. Chase (3) "
V. E. Skoog "
E. F. Saling "
J. L. Sollis "

5-1-70
noted in
agreement
book

NOTED
FLOYD QUERY

RECEIVED
APR 22 1970
FOR

Form FHWA-121 (12-67)
UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
P. O. Box 300
Salem, Oregon 97308

I-80N

7185

DATE: April 15, 1970

In reply refer to: 08-35.A-5

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Project I-80N-7(25)341
Lime Section - Oregon Trail
State Force Order No. 13
Total estimated amount of the Order: $5,400
Federal participation: $4,860

Reference is made to your letter dated April 1, 1970 concerning subject order.

We are approving the use of State Forces as being in the public interest in accordance with PPM 21-6.2 for the following reasons:

1. The contractor is neither properly equipped nor staffed to perform the work contemplated under the order.
2. The State has trained men and specialized equipment to perform the work most economically.
3. The amount of the work is too small to warrant a separate contract.

Equipment rental rates will be according to a schedule that has been previously approved by this office for use on force account work.

Reimbursement is to be made on an actual cost basis. A signed copy of the order is returned herewith.

Attachment

4-21-70

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

Form A-106-[illegible]

STATE COPY

G-11

APPROVED EFFECTIVE [illegible]
Contingent upon [illegible] of project agreement if additional funds are required
TITLE Dist. Engineer
DATE 7 APR
U. S. BUREAU OF PUBLIC ROADS

OREGON STATE HIGHWAY DEPARTMENT

Order for State Force Work

APPLYING TO CONTRACT PROJECTS

Order No. 13

Project Name Lime Section Date March 23, 1970

Highway Old Oregon Trail Contract No. 7185 F. A. Project No. I-80N-7(25)341

County Baker Prefix 601-1065 Account No. 279-13

Description of Work To Be Done:

Rent and install slope indicators.

Location by Station Numbers:

704+00

Estimate of Quantities and Costs:

Rental at $150.00 per month
4 month=$600.00
The net cost effect of this work order is a contract cost increase of $600.00.

Explanation:

This work can best be handled by state forces.

INSTRUCTIONS

Submit a separate order for each piece or kind of state force work to be undertaken. Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs.

Five copies of the order are to be submitted to Salem. After approval by the Assistant State Highway Engineer, one copy will be sent to the Division Engineer and one copy to the Resident Engineer.

Project authorization $4,178,926.12
Present estimate of project cost, including $600.00 for work under this order $3,999,140.00
Expected under-run ~~over-run~~ (amount) $179,786.12
Expected under-run ~~over-run~~ (per cent) 4.30%

Space to right of this line is for use of Salem Office

Submitted by: E S Thompson Resident Engineer
E. S. Thompson

Approval Recommended: Construction Engineer or ~~Bridge Engineer~~
for

Approval Recommended: Division Engineer

Approved: ~~Deputy State Highway Engineer,~~ ~~Assistant State Highway Engineer of~~ Construction ~~Office~~ Engineer.

~~This order does not constitute authority for expenditures until approved by the Deputy or Assistant State Highway Engineer.~~

RECEIVED
APR 22 1970

Form FHWA-121 (12-67)

FOR FILING

UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
P. O. Box 300
Salem, Oregon 97308

I-80N 7

DATE: April 15, 1970

In reply refer to: 08-35.A-5

TO 7185 Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Project I-80N-7(25)341
Lime-Old Oregon Trail
State Force Order No. 12
Total estimated amount of the Order: $5,400.00
Federal participation: $5,120.00

Reference is made to your letter dated 4/1/70 concerning subject order.

We are approving the use of State Forces as being in the public interest in accordance with PPM 21-6.2 for the following reasons:

1. The contractor is neither properly equipped nor staffed to perform the work contemplated under the order.

2. The State has trained men and specialized equipment to perform the work most economically.

3. The amount of the work is too small to warrant a separate contract.

Equipment rental rates will be according to a schedule that has been previously approved by this office for use on force account work.

Reimbursement is to be made on an actual cost basis. A signed copy of the order is returned herewith.

Attachment

NOTED
F. B. KLABOE

Morgan w/enc.

4-21-70

RECEIVED
APR 20 1970
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

Form A-100—5M

STATE COPY

G-11

APPROVED [illegible]
Contingent upon [illegible] of project agreement [illegible] funds are required
BY [illegible]
TITLE Dist. Engineer
DATE 12 APR 1970
U. S. BUREAU OF PUBLIC ROADS

OREGON STATE HIGHWAY DEPARTMENT

Order for State Force Work

APPLYING TO CONTRACT PROJECTS

Order No. 12

Project Name Lime Date March 23, 1970

Highway Old Oregon Trail Contract No. 7185 F. A. Project No. I-80N-7(25)341

County Baker Prefix 601-1065 Account No. 231-12

Description of Work To Be Done:

Furnish and install 2 inch galvanized water pipe horizontal drains.

Location by Station Numbers:

703

Estimate of Quantities and Costs:

Approximately 600 feet at 0.55 per. ft. = $330.00
Labor = $5,070.00
Total = $5,400.00

The net cost effect of this work order is a contract cost increase of $5,400.00.

Explanation:

This work can best be handled by state forces.

INSTRUCTIONS

Submit a separate order for each piece or kind of state force work to be undertaken. Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs.

Five copies of the order are to be submitted to Salem. After approval by the Assistant State Highway Engineer, one copy will be sent to the Division Engineer and one copy to the Resident Engineer.

		Space to right of this line is for use of Salem Office
Project authorization	$4,178,926.12	
Present estimate of project cost, including $5,400.00 for work under this order	$3,998,540.00	
Expected under-run ~~over-run~~ (amount)	$180,386.12	
Expected under-run ~~over-run~~ (per cent)	4.32%	

Submitted by: E S Thompson, Resident Engineer
E. S. Thompson

Approval Recommended: Alfred [illegible], Dist Division Engineer

Approval Recommended: [illegible] for Construction Engineer or Bridge Engineer

Approved: [illegible] ~~Deputy State Highway Engineer, Assistant State Highway Engineer or Office~~ Construction Engineer.

~~This order does not constitute authority for expenditures until approved by the Deputy or Assistant State Highway Engineer.~~

State Printing

RECEIVED
APR 14 1970
FOR FILING

I-80N-7(35)341
7185

April 14, 1970

Wallis & Churchill
Attorneys at Law
P. O. Box 1253
Boise, Idaho 83701

Attention: Winston H. Churchill

Gentlemen:

Thank you for your letter of April 8 advising us that your claim in the amount of $1,657.01 has been paid in full. This appears to be in connection with the Blackline Asphalt Sales, Inc., claim which was filed against the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

This information is being recorded and we will advise all other interested parties that this claim has been paid.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.

bc Commission

Noted on card
S.J.

WALLIS & CHURCHILL
ATTORNEYS AT LAW
POST OFFICE BOX 1253
BOISE, IDAHO 83701

RANDALL WALLIS
WINSTON H. CHURCHILL

404 IDAHO BUILDING
AREA CODE 208
TELEPHONE 342-8693

April 8, 1970

Mr. Floyd Query, Secretary
Oregon State Highway Division
State Highway Building
Salem, Oregon 97310

Dear Mr. Query:

The early part of March I wrote to you in reference to Roy L. Houck. You replied to my letter on March 17, and stated this was the contract number 7185 on the Lime section of the old Oregon Trail, in Baker County. You asked to be informed if our claim was satisfied. This is to inform you that our claim in the amount of $1657.01, has been paid in full.

Thank you for your help in this matter.

Very truly yours,

Winston H. Churchill

WHC:rb

CC: Jack Combs
Mel Ellis

NOTED
FLOYD QUERY

RECEIVED
APR 10 1970
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
APR 17 1970

Form FHWA-121 (12-67)
UNITED STATES GOVERNMENT

Memorandum

I 80N-7(25)341

7185

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
P. O. Box 300
Salem, Oregon 97308

DATE: April 14, 1970

In reply refer to: 08-35.A-1

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

Klaboe

NOTE: F. B. KLABOE

SUBJECT: Oregon Project I-80N-7(25)341
Lime Section - Old Oregon Trail
State Force Order No. 13 & Supplement
Total estimated amount of the Order: $3,500.00
Federal participation: $3,250.00

Reference is made to your letter dated April 7, 1970 concerning subject order.

We are approving the use of State Forces as being in the public interest in accordance with PPM 21-6.2 for the following reasons:

1. The contractor is neither properly equipped nor staffed to perform the work contemplated under the order.

2. The State has trained men and specialized equipment to perform the work most economically.

3. The amount of the work is too small to warrant a separate contract.

Equipment rental rates will be according to a schedule that has been previously approved by this office for use on force account work.

Reimbursement is to be made on an actual cost basis. A signed copy of the order is returned herewith.

Attachment

REFERRED TO Morgan w/enc.

4-17-70

RECEIVED
APR 1 ... 70
OFFICE OF
[illegible]

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

Form A-105—5M

STATE COPY

6-1

APPROVED EFFECTIVE DATE [illegible]
Contingent upon modification of project agreement if additional funds are required
BY
TITLE Dist. Engineer
DATE 14 APR 1970

OREGON STATE HIGHWAY DEPARTMENT

Order for State Force Work

APPLYING TO CONTRACT PROJECTS

Order No. 13(supplement)

U. S. BUREAU OF PUBLIC ROADS

Project Name Lime Section **Date** April 3 1970

I-80N-7(25)341

Highway Old Oregon Trail **Contract No.** 7185 **F. A. Project No.**

County Baker **Prefix** 601-1065 **Account No.** 279-13

Description of Work To Be Done:

Install Slope indicators

Location by Station Numbers:

704+00

Estimate of Quantities and Costs:

Labor	$3,000.00
Equipment	400.00
Material	100.00
Total	3,500.00

Explanation:

Work can best be performed by state forces.

INSTRUCTIONS

Submit a separate order for each piece or kind of state force work to be undertaken. Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs.

Five copies of the order are to be submitted to Salem. After approval by the Assistant State Highway Engineer, one copy will be sent to the Division Engineer and one copy to the Resident Engineer.

Project authorization	$4,178,926.12
Present estimate of project cost, including $3,500.00 for work under this order	$4,002,640.00
Expected under-run ~~XXXXXXX~~ (amount)	$176,286.12
Expected under-run ~~XXXXXXX~~ (per cent)	4.22%

Space to right of this line is for use of Salem Office

Submitted by: E. S. Thompson
Resident Engineer

Approval Recommended:
~~Construction Engineer or Bridge Engineer~~

Approval Recommended:
Asst. Division Engineer

Approved:
~~Deputy State Highway Engineer,~~
~~Assistant State Highway Engineer or~~
For Construction ~~Office Engineer.~~

State Printing

Form A-[illegible]

G-11

OREGON STATE HIGHWAY DEPARTMENT

Order for State Force Work

APPLYING TO CONTRACT PROJECTS

Order No. 13

Project Name Lime Section

Date March 23, 1970

Highway Old Oregon Trail

Contract No. 7185

F. A. Project No. I-80N-7(25)341

County Baker

Prefix 601-1065

Account No. 279-13

Description of Work To Be Done:

Rent ~~and install~~ slope indicators.

Location by Station Numbers:

704+00

Estimate of Quantities and Costs:

Rental at $150.00 per month
4 month=$600.00
The net cost effect of this work order is a contract cost increase of $600.00.

Explanation:

This work can best be handled by state forces.

INSTRUCTIONS

Submit a separate order for each piece or kind of state force work to be undertaken. Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs.

Five copies of the order are to be submitted to Salem. After approval by the Assistant State Highway Engineer, one copy will be sent to the Division Engineer and one copy to the Resident Engineer.

Project authorization	$4,178,926.12
Present estimate of project cost, including $600.00 for work under this order	$3,999,140.00
Expected under-run ~~over-run~~ (amount)	$179,786.12
Expected under-run ~~over-run~~ (per cent)	4.30%

Space to right of this line is for use of Salem Office

Submitted by: E S Thompson
Resident Engineer
E. S. Thompson

Approval Recommended:
Division Engineer

Approval Recommended:
for
Construction Engineer ~~or Bridge Engineer~~

Approved:
~~Deputy State Highway Engineer, Assistant State Highway Engineer or~~ Construction ~~Office~~ Engineer.

~~This order does not constitute authority for expenditures until approved by the Deputy or Assistant State Highway Engineer.~~

State Printing

CC: Glenn
Zite

RECEIVED
APR 20 1970
FOR FILING

Claim 4496

FILED

CLAY MYERS

Files

OREGON STATE
HIGHWAY DIVISION

7185

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

April 9, 1970

Ontario Asphalt Paving Company
460 N. E. 4th Street
Ontario, Oregon 97914

Attention: Dave Stevenson
President

Gentlemen:

This is to acknowledge receipt of your letter of April 6 and attached statement showing that Roy L. Houck and Sons, Inc., owes you for equipment rental in the amount of $610.

You state in your letter this is in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty and Surety Company through Updegraff Insurance, Inc., 776 Commercial St., SE, Salem, 97301 furnished the performance bond on this contract. We will advise them of the receipt of your claim and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

NOTED
4-14-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation

Hon. Clay Myers - Please acknowledge receipt of the attached claim on the enclosed copy of this letter.

ONTARIO ASPHALT PAVING COMPANY
ASPHALT PAVING CONTRACTOR
460 N. E. 4th STREET
ONTARIO, OREGON
TUcker 9-8411

COURTESY
RELIABILITY
SATISFACTION

April 6, 1970

State of Oregon
State Highway Department
Floyd Query, Sect.
Salem, Oregon

Dear Mr. Query:

We have a bill with Roy L. Houck & Sons, Inc. against the Lime section of Freeway contract #7185. A copy of our statement is enclosed.

Please consider this as a claim against the above job.

Sincerely,

ONTARIO ASPHALT PAVING COMPANY

David L. Stevenson

Dave Stevenson, President

DS:ja
Enclosure

NOT
FLOYD QU

COPY

STATEMENT

ONTARIO ASPHALT PAVING
401 N.E. 4th Avenue
ONTARIO, OREGON 97914

Phone 889-8411

DATE	February 17, 1970
NUMBER	rebilling

Roy L. Houck Sons' Corporation
P.O. Box 671
Salem, Oregon

TERMS:

PLEASE DETACH AND RETURN WITH YOUR REMITTANCE $

DATE	CHARGES AND CREDITS	BALANCE	
	BALANCE FORWARD		
	P.O. #38818		
10/22-69	60 hrs 6 cy. dump truck rental @ 5.00	300	00
12/26/69	Mobilization both ways roller	60	00
12/26/69	50 hrs. 8 ton rollar rental	250	00
		610	00

RECEIVED
[illegible]

DUPLICATE

Thank You PAY LAST AMOUNT IN THIS COLUMN

RECEIVED
APR 10 1970
FOR FILING

I-80N-7(25)-41

7185

April 9, 1970

Baker Valley Enterprises, Inc.
P. O. Box 169
Baker, Oregon 97814

Attention: Mr. Richard Mark
President

Gentlemen:

Thank you for your letter of April 6 informing us that you have received a check from Roy L. Houck Sons, Inc., for the full amount which they owed you.

This appears to be in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

Our records indicate that your claim was in the amount of $456 from July 28, 1969, to February 20, 1970, and $750 from April 1, 1969, to December 1969.

This information will be noted in our records and we will advise all interested parties of the receipt of your letter.

Very truly yours,

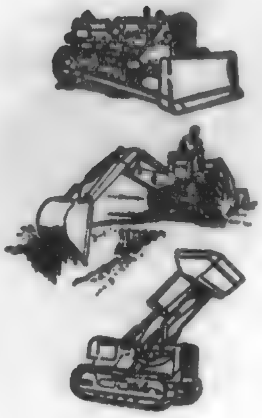
Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc Roy L. Houck Sons' Corp.
The Aetna Casualty and Surety Co.
Updegraff Insurance, Inc.

Commissioners

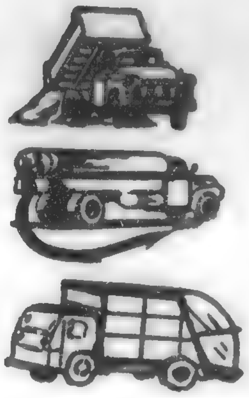
FD. CARD
4-9-70
fw

CWH:fkn



Baker Valley Enterprises Inc.

BAKER, OREGON 97814



April 6, 1970

Floyd Query, Secretary
Oregon State Highway Commission
Highway Building
Salem, Oregon

Re: Roy L. Houck Sons, Inc.
Your letter 3/23/70

Dear Mr. Query:

We received a check from R. L. Houck Sons, Inc. for the full amount due us.

Thank you for your prompt action in this matter.

Very truly yours,

BAKER VALLEY ENTERPRISES, Inc.

Richard Mark

Richard Mark,
President

RM'kr

NOTED
FLOYD QUERY

RECEIVED
[illegible] 7 [illegible]
OREGON
STATE HIGHWAY COMMISSION

Specialists in Solid and Liquid Waste Disposal . . . Sanitary Land Fills . . . Earth Moving

RECEIVED
APR 20 1970
FOR FILING

Claim 4495

FILED
CLAY MYERS

Files c

OREGON STATE
HIGHWAY DIVISION

I-80N-[illegible]-11
7125

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

April 9, 1970

Superior Block Company
P. O. Box 214
Ontario, Oregon 97914

Attention: D. L. Hammar
Manager

Gentlemen:

This is to acknowledge receipt of your claim letter of April 6 and attached statements advising us that Stach Construction Company owes you for material in the amount of $38.

From the description given in your letter, this appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7125 for grading, paving, signing, and structures on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty and Surety Company through Updegraff Insurance, Inc., 776 Commercial St., SE, Salem 97301 furnished the performance bond on this contract which is given to assure completion of the project and payment of all bills incurred in it. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

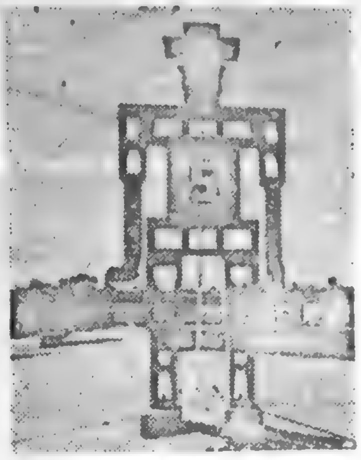
4-14-70 cR

Please advise this office when your claim has been paid.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc Roy L. Houck Sons' Corporation
The Aetna Casualty and Surety Co.
Updegraff Insurance, Inc.
Hon. Clay Myers - Please acknowledge receipt of the attached claim on the enclosed copy of this letter.



For Lasting Beauty
SUPERIOR BLOCK CO.
P. O. BOX 214
ONTARIO, OREGON
PHONE 889-6692

MASONRY SUPPLIES
PUMICE MASONRY
METAL DOOR FRAMES
ALUMINUM WINDOWS
FIREPLACE SUPPLIES

4 / 6 / 70

Floyd Query
Oregon State Highway Dept.
Salem, Oregon

Dear Sir;

I have just learned that the Stack Construction Co. Of Grants Pass, Oreg is in Financial Trouble. We have them on our books for $38.00. Some of this has been since 6 / 9 / 69 I am enclosing a copy of the statement. As to the best of my knowledge the material was all used on the section of freeway in the Lime, Ore. area.

Although this is not a great amount, I would appreciate it if this was included in the settlement with the Stack Construction Co.

Yours Truly
D.L.Hammar
Mgr.

NOTED
FLOYD QUERY

STATEMENT

$ 4 / 6 19 70

TO Stack Construction Co.

ADDRESS P.O.Box 730 Grants Pass, Ore.

CITY Grants Pass Ore.

REMITTANCE
$38.00

Return this portion with your remittance

TERMS

DATE PAID 19 CHECK NO AMOUNT $

DATE	REFERENCE	CHARGES	CREDITS	BALANCE
	BALANCE BROUGHT FORWARD			
6/9/69	#24777	27.75		27.75
7/14/69	#25114	8.40		36.15
8/5/69	#25374		6.75	29.40
8/8/69	#25405	2.30		31.70
3/11/70	#27357	6.30		38.00 ✓

FOLD

Grayline FORM 41-520 1-PART
PRODUCT OF WILSON JONES COMPANY ©1960
PRINTED IN U S A

This portion is for your records. Your check is your receipt.

LAST AMOUNT IN THIS COLUMN IS UNPAID BALANCE

SUPERIOR BLOCK CO.

BUILDING BLOCKS

For Lasting Beauty 24777

P. O. BOX 214 ONTARIO, OREGON 97914

PHONE 889-6692

Customer's Order No. Date 8-9 1969

M Stack Construction

Address

Sold by	Cash	C.O.D.	Charge	On Acct.	Mdse. Ret.	Pd. Out
			✓			

QUAN.	DESCRIPTION	PRICE	AMOUNT
15	sax Cement		27 75

J C Brotherton

ALL claims and returned goods MUST be accompanied by this bill.

Rec'd by

395110

SUPERIOR BLOCK CO.

BUILDING BLOCKS

For Lasting Beauty 25114

P. O. BOX 214 ONTARIO, OREGON 97914

PHONE 889-6692

Customer's Order No. Herper Stack

Date 7-14 19[illegible]

M Stack [illegible]

Address

Sold by	Cash	C.O.D.	Charge	On Acct.	Mdse. Ret.	Pd. Out

QUAN.	DESCRIPTION	PRICE	AMOUNT
20	#106 Blocks	42	8 40

John Brotherton

ALL claims and returned goods MUST be accompanied by this bill.

Rec'd by

285119

SUPERIOR BLOCK CO.

BUILDING BLOCKS

For Lasting Beauty 25374

P. O. BOX 214 ONTARIO, OREGON 97914

PHONE 889-6692

Customer's Order No.

Date 9-5 1969

M Stack Construction

Address

Sold by	Cash	C.O.D.	Charge	On Acct.	Mdse. Ret.	Pd. Out
CCH					✓	

QUAN.	DESCRIPTION	PRICE	AMOUNT
	Credit by returns		
16	#106 Blocks	42	6 75

Cr

ALL claims and returned goods MUST be accompanied by this bill.

Rec'd by

285119

SUPERIOR BLOCK CO.

BUILDING BLOCKS

For Lasting Beauty 25405

P. O. BOX 214 ONTARIO, OREGON 97914

PHONE 889-6692

Customer's Order No. Date 9-5 1969

M Stack Construction

Address

Sold by	Cash	C.O.D.	Charge	On Acct.	Mdse. Ret.	Pd. Out
			✓			

QUAN.	DESCRIPTION	PRICE	AMOUNT
1	chisel	2.30	2 30

ALL claims and returned goods MUST be accompanied by this bill.

Rec'd by Del Hacker

©255110

SUPERIOR BLOCK CO.

BUILDING BLOCKS

For Lasting Beauty 27357

P. O. BOX 214 ONTARIO, OREGON 97914

PHONE 889-6692

Customer's Order No. Line #37 Date 3-11 1970

M Stack Construction

Address PO 230 Grants Pass, Ore

Sold by	Cash	C.O.D.	Charge	On Acct.	Mdse. Ret.	Pd. Out
CW			✓			

QUAN.	DESCRIPTION	PRICE	AMOUNT
2	gal muriatic acid	205	4 10
1	acid brush		2 20

ALL claims and returned goods MUST be accompanied by this bill.

Rec'd by

©255110

Form [illegible]

I 80N [illegible] OF [illegible] ENGINEER

7185

STATE COPY G-1P

OREGON STATE HIGHWAY DEPARTMENT

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

APPROVED EFFECTIVE DATE [illegible]
Contingent upon modification of project agreement if additional funds are required
BY G.K. [illegible]
TITLE 4-28-70 for ~~[illegible]~~
DATE 4-28

U. S. BUREAU OF PUBLIC ROADS

Project Name Lime

Highway Old Oregon Trail

County Baker

Contractor Roy L. Houck Sons' Corporation

Address P. O. Box 671, Salem, Oregon 97308

Date April 8, 1970

Contract No. 7185

Prefix 601-1065

F. A. Project No. I-80N-7(25)341

Order No. 17

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done:

Excavate trench for perforated pipe and dispose of excess excavated material.

NOTED
F. B. KLABOE

Location by station numbers:

696+50 to 699+83 Rt.

702+90 to 709+67 Rt.

Estimate of quantities and cost:

Labor	$1,000.00	Equipment	$870.00
+20%	200.00	+15%	130.50
Subtotal	$1,200.00	Subtotal	$1,000.50
		Total	$2,200.50

Maximum equipment rates allowable as per A.G.C. - State Agreement.
Percentage allowed contractor is in accordance with executed contract for this job.
The net cost effect of this work order is a contract cost increase of $2,200.50.

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")

Installation ordered after project was nearly complete and through rock material which may require blasting adjacent to paving and excess materials will require loading and hauling for disposal.

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization	$4,178,926.12
Present estimate of project cost, including $2,200.50 for work under this order	$4,002,427
Expected under-run ~~overrun~~ amount	$176,499.12
Expected under-run ~~overrun~~ per cent	4.22

Space to right of this line is for use of Salem Office

Submitted by: E S Thompson
E. S. Thompson
Resident Engineer

Approval Recommended:
Division Engineer

Approval Recommended:
for
Construction Engineer ~~or Bridge Engineer~~

Approved
~~Deputy State Highway Engineer or~~

4-29-70

RECEIVED
APR 10 1970
FOR FILING

I-80N-7(25)341

Form FHWA-121 (12-67)

UNITED STATES GOVERNMENT

Memorandum

Klaboe

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Bureau of Public Roads
Box 300
Salem OR 97308

DATE: April 7, 1970

In reply refer to: 08-35-DA

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Project I-80N-7(25)341
Lime Section
Proposed Rock Barrier

Mr. Klaboe's April 1, 1970 letter proposed the construction of a barrier to prevent falling rock from rolling onto the highway. We agree in the safety concept involved but do not concur in the extent or type of barrier proposed.

A barrier would be beneficial in the two areas near Station 705 where you have encountered considerable breakoff of the benches. The benefit of a barrier east of these two areas is not apparent because properly functioning full benches are in place. The introduction of a rock barrier into the available recovery area does not seem to be a reasonable safety trade-off for the remote possibility of stopping a rock from rolling onto the pavement. In the case of a massive rockfall the effectiveness of the barrier would be limited.

Each of the three types of barriers you have considered would provide protection against rockfalls. The GM-type barrier is not reasonably comparative in cost to the standard guardrail-type barrier.

In summary, approval could be given for the installation of a standard guardrail-type barrier (your Plan C) with provisions for some backing material to allow closer placement of the granular dike. The barrier placement would be restricted to the area west of the existing full bench sections.

4-10-70

REFERRED TO
Morgan
BY ASST. STATE HWY. ENGR.

I guess we might as well agree to their solution.
F.K.

RECEIVED
APR 8 1970
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

RECEIVED
APR 20 1970
FOR FILING

Files

Claim 4492

FILED
APR - 1970
CLAY MYERS

**OREGON STATE
HIGHWAY DIVISION**

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

7185

April 3, 1970

Banta, Silven & Young
Law Offices
1950 Third Street
Baker, Oregon 97814

Attention: David C. Silven

Gentlemen:

This is to acknowledge receipt of your letter of March 27, addressed to the Secretary of State and to the Oregon State Highway Commission, with the attached Notice of Claim of your client, Matich Corporation.

The Notice states that this claim is in the amount of $143,081.89, plus interest for labor, services and materials supplied, and the use of equipment.

We also acknowledge receipt of Exhibit A, which lists employees of Matich Corporation performing the work mentioned in the Notice of Claim.

This appears to be in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures, and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty and Surety Company through Updegraff Insurance, Inc., 776 Commercial St., S.E., Salem 97301 furnished the performance bond on this contract. We will advise them of the receipt of your client's claim and we will also forward it to the Secretary of State for filing.

Please advise this office when this claim has been satisfied.

RECEIVED
APR 7 1970
OREGON
STATE HIGHWAY COMMISSION

Very truly yours,

NOTED ON CARD
4-8-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc Roy L. Houck Sons' Corp.
The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Hon. Clay Myers - Please acknowledge receipt of the attached claim on the enclosed copy of this letter.

LAW OFFICES
BANTA, SILVEN & YOUNG
1950 THIRD STREET
BAKER, OREGON 97814
TELEPHONE 523-4442

HAROLD BANTA
DAVID C. SILVEN
THOMAS F. YOUNG
GARY L. MARLETTE

NICHOLS & HALLOCK
1919-1922
NICHOLS, HALLOCK & DONALD
1923-1929
HALLOCK, DONALD & BANTA
1930-1945
HALLOCK, DONALD, BANTA & SILVEN
1946-1950
HALLOCK, BANTA, SILVEN & HORTON
1951-1954
BANTA, SILVEN & HORTON
1955-1959
BANTA, SILVEN, HORTON & YOUNG
1960-1962

March 27, 1970

Honorable Clay Myers
Secretary of State
Salem, Oregon

Clerk or Auditor of Oregon State Highway Commission
Highway Building
Salem, Oregon 97310

Re: Matich Corporation
Claim vs. Roy L. Houck Sons' Corporation

COPY

Gentlemen:

We enclose notice of claim of Matich Corporation against the bond taken from Roy L. Houck Sons' Corporation as principal and Aetna Casualty & Surety Company as surety. Will you kindly acknowledge receipt?

Very truly yours,

David C. Silven

DCS:bb
Enc.
CERTIFIED MAIL, R.R.R.
cc - Aetna Casualty & Surety Co.,
Hartford, Connecticut

David G. Moore
Attorney at Law
P.O. Box 1300
Riverside, California 92502

Cc ✓

RECEIVED
MAR 30 1970
OREGON
STATE HIGHWAY COMMISSION

NOTICE OF CLAIM

TO: The State of Oregon, by and through its State Highway Commission

NOTICE IS HEREBY GIVEN that the undersigned Matich Corporation, has a claim for labor, services and materials supplied and the use of equipment in the prosecution of the work, in connection with the performance of Oregon State Highway Contract No. 7185-Old Oregon Trail-Lime Section at or near Lime, Oregon, the labor having been performed by employees of the claimant, a list of which employees is attached hereto, marked Exhibit "A" and by this reference made a part hereof, which laborers participated in and performed the work involved in furnishing and installation of reinforced and continuously reinforced concrete paving, including placing the same on the roadbed as per plans and specifications under Oregon State Highway Contract No. 7185; the materials furnished consisted of reinforcing steel, furnished by Soule Steel Corporation; the claim includes, as part of the sub-contract price, the use of the equipment supplied by claimant in the combining and mixing of aggregates and cement, the transportation of the concrete to the roadbed and placement of the reinforcement and the concrete paving.

The claim is in the sum of $143,081.89 plus interest thereon at the rate of 6% per annum from November 5, 1969, until paid, which amount is claimed against the bond taken from Roy L. Houck Sons' Corporation, as principal, and the Aetna Casualty & Surety Company as surety, for the work contemplated by the contract dated October 14, 1968, between the State of Oregon, by and through its State Highway Commission and Roy L. Houck Sons' Corporation, an Oregon corporation, for grading, paving, structure and signing of the Lime Section of Old Oregon Trail Highway in

STATE HIGHWAY COMMISSION

Baker County, Oregon, designated by Contract No. 7185.

That said claim of $143,081.89 plus interest consists of $161,437.35 which became due on or about November 5, 1969, the claimant having completed its work on or about October 5, 1969 less a partial payment of $55,000.00 received on account on March 14, 1970; that the balance of said claim, $36,644.54 plus interest is the retainage held until the principal contract above mentioned is fully completed and the work of the sub-contractor and the contractor under the principal contract have been accepted by the Oregon State Highway Commission; that six months have not expired since completion of full performance by the claimant and six months have not expired since the acceptance, if any, of the work by the affirmative action of said Oregon State Highway Commission.

That claimant, Matich Corporation, a California corporation, mailing address P.O. Box 390, Colton, California, in the performance of said work had a direct contractual relationship with said Roy L. Houck Sons' Corporation, the contractor which furnished said bond.

MATICH CORPORATION

By Martin A. Matich
Executive Vice-President

Attest: J. M. Stentz
Secretary

STATE OF CALIFORNIA }
COUNTY OF San Bdno } ss. March 23, 1970

Personally appeared Martin A. Matich and J M Stentz who, being duly sworn, each for himself and not one for the other, did say that the former is the Executive Vice-President and that the latter is the Secretary of MATICH CORPORATION, a corporation, and that the seal affixed to the foregoing instrument was signed and sealed in behalf of said corporation by authority of its board of directors; and each of them acknowledged the said instrument to be its voluntary act and deed.

Before me:

Beverly A Brown
Notary Public for California
My Commission Expires: 11 12 73

OFFICIAL SEAL
BEVERLY A. BROWN
My Commission Expires Nov. 12, 19[illegible]

P. O. Box 390, Colton, Calif. 9[illegible]24

REID, BABBAGE & COIL
3800 Orange Street
P.O. Box 1300
Riverside, California 92502

By____________________
David G. Moore

BANTA, SILVEN & YOUNG
Attorneys at Law
1950 Third Street
Baker, Oregon

By David C. Silven
David C. Silven

ATTORNEYS FOR CLAIMANT

EXHIBIT "A"

LIST OF EMPLOYEES OF MATICH CORPORATION PERFORMING THE WORK MENTIONED IN THE NOTICE OF CLAIM TO WHICH THIS EXHIBIT IS ATTACHED:

Name	Address
Barry, C. C.	1508 Jackson, LaGrande, Oregon
Rylak, B. A.	P.O. Box 87, Enterprise, Oregon
Caldwell, L. F.	720 E. Newport, Hermiston, Oregon
Caudle, W. F.	P.O. Box 12, Hermiston, Oregon
Connell, M. B.	Box 71, Umatilla, Oregon
Haskett, D. C.	90 W. Beebe, Hermiston, Oregon
Helke, G. W.	245 SE 6th, Hermiston, Oregon
Klein, H.	204 S.W. Hailey, Pendleton, Oregon
Langley, J. G.	P.O. Box 375, Wallowa, Oregon
Shook, C. W.	P.O. Box 436, Hermiston, Oregon
Williams, C.	Box 380, Space 10 Rt. 1, LaGrande, Oregon
Williams, M. L.	Rt 1 Box 380, Sp. 10, LaGrande, Oregon
Wilson, R.	Box 91, Umatilla, Oregon
Wizner, J.	P.O. Box 533, Hermiston, Oregon
Kelly, H. E.	Rt. 1 c/o P. Farver, Hermiston, Oregon
Wicks, R.	1675 5th, Baker, Oregon
Linderman, E.	1952 5th, Baker, Oregon
Culley, H.	2326 7th, Baker, Oregon
Voiles, G.	1841 14th, Baker, Oregon
Smith, R.	Rt 1, Midvale, Idaho
Presley, G.	683 SW 4th St., Ontario, Oregon
Williams, H. L.	923 Walnut St., Baker, Oregon
Edwards, C. A.	602 S.W. Dorian, Pendleton, Oregon
Shockman, R.	P.O. Box 241, Hermiston, Oregon
Kelley, R.	Rt 2, Box 588, Pendleton, Oregon
Rodriquez, D.	745 Orchard, Hermiston, Oregon
Valentine, D.L.	Sumpter Route, Baker, Oregon
Gunderson, R.	Box 529, Halfway, Oregon
Grover, R.M.	Halfway, Oregon
Grover, R.D.	Box 543, Halfway, Oregon
Doran, V. W.	401 E 11th, The Dalles, Oregon
Blackman, T.H.	Box 473, Island City, Oregon
Rhuman, M.H.	Rt. 2, Box 233, Ontario, Oregon
Baker, R.D.	Stanfield, Oregon
Nuno, V. M.	4939 Elm, San Diego, California
Bishop, K.	1617 Malad St., Boise, Idaho
Aaron, S.H.	3308 Wall Ave., San Bernardino, California
White, W.G.	4257 Woodard, Norco, California
Christenson, P.B.	3908 Mt. View Ave., San Bernardino, Calif.
Wilson, F.	9711 Magnolia, Bloomington, California
Roberts, R.D.	2911 N.E. Riverside Ave., Pendleton, Ore.
Freeman, J.C.	P.O. Box 1424, Pendleton, Oregon
Pickens, W.J.	3200 Loffelman, Oakgrove, Oregon
Roberts, L.L.	Gen Del Memory Lane, Pendleton, Oregon
St. Peter, C.E.	1515 S Ave I, LaGrande, Oregon
Bodgan, J.	2100 Fraizer, Pendleton, Oregon
Heck, J.P.	2109 Colorado, Baker, Oregon
Cook, K.	Fossil, Oregon
Allen, G.H.	Oregon Tr. Pl. 19, Baker, Oregon
Kerns, N.B.	40 W. Beebe, Hermiston, Oregon
Compton, H.A.	Rt 1 Box 70, Richland, Oregon
Meyer, R.F.	3018 S.W. Ladow, Pendleton, Oregon
Thompson, D.R.	Rt 1 Box 103, Ranier, Oregon
Thompson, M.E.	391 N 2nd St., St. Helens, Oregon
Johnson, V.V.	Rt. 1 Box 69, Warren, Oregon
Brown, T.	Rt 1, Box 188 Zulu, LaGrande, Oregon
Cunningham, B.	Dawson St., Halfway, Oregon

Exhibit "A" - Page 2

Timmons, R.R.	385 No. 7th, St. Helens, Oregon
Swart, T.M.	2809 2nd, LaGrande, Oregon
Hardin, W.	780 W. Idaho, Ontario, Oregon
Chetwood, V.M.	Halfway, Oregon
Morris, E.L.	2415 E. 16th St., Newport Beach, Calif.
Lucas, R.H.	1425 Pleasant View Dr., Redlands, Calif.
Meyer, B.C.	1254 No. Primrose, Rialto, California

RECEIVED
APR 2 - 1970

FOR FILING
I-80N-7(25) 341
714

April 1, 1970

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
Post Office Box 300
Salem, Oregon 97308

Dear Sir:

On the Lime Section of the Old Oregon Trail Highway, and particularly at approximate Station 705, the new construction goes through a large rock cut. The material in this cut varies as to type, character, condition and stability. Our typical section included bench-type slopes in order to stabilize these slopes and at the bottom a fallout area of 24-foot width from normal shoulder. The excavation has been made and at present we are about ready to consider opening this project to traffic.

Due to the somewhat unstable characteristics of the rock slope cut, we have encountered some break-off on these bench areas during their time of completion to the present. It has been necessary to require cleaning of the benches and remove the broken off materials.

An examination of this cut indicates that this breaking up and fall-off of the seamy unstable rock will be a continuing thing in the future. Due to this condition, we have considered it a necessity to provide more protection in the form of a safety barrier against this falling rock than was provided by our original plans.

A. After making a study of the area and the problems involved, a GM-type guardrail with base and a cushion back formed by a granular backfill was considered to be the best all-around installation for the purpose intended. (See attached sheet.) The following things influenced this selection:

1. The GM-type rail, which is concrete, has proved to be exceptionally sturdy and maintenance free at other installations.

2. It being of a solid mass, a cushion of granular material could be formed against its back with an approximate 2:1 slope from its top toward the rock slope. This would allow the maximum area for a fallout semi-moat section to contain falling material and also allow more access room for cleanout as periodically needed.

3. The design would include a regular guardrail section of approximately 150 feet at the front end or travel approach end which could be opened to allow access for cleanout as needed. This regular rail would be flared into the cut section as a safety precaution.

4. This section, while having a higher initial cost, is considered to be more efficient and, in the long run, due to minor maintenance provide an economical installation.

B. As an alternate installation, your personnel requested that we study and consider a chain link type fence in lieu of our proposal. We have done so, but do not feel that this type barrier would be as efficient or perform as well as the GM rail.

It is our opinion that such an installation would pose a continuing maintenance problem and would not provide the sturdiness as would the GM rail. In this type installation, one must consider damage not only from falling rock but also from highway vehicles. In such case, either breakaway safety posts should be provided or a safety guardrail installation in front provided. This would not decrease future maintenance costs but would probably increase them.

C. One other alternate was suggested; it being an installation of guardrail around the danger area with a granular rock dike or berm behind to form a protective barrier. This type installation would decrease the available fallout and cleanout area. Someone suggested a solid back to the rail so that a cushion could be provided and thus retain maximum fallout area. This could, of course, be provided but cost would increase and the installation is still subject to damage and a continuing maintenance problem from its front facing.

Due to the above objections to alternates "B" and "C", we are of the opinion that, in this particular case where fallout space is limited and maintenance costs must be considered, plan "A" is superior and, therefore, we would like to construct the protective barrier by this method.

The length of the cut area where the barrier is necessary is approximately 800 feet. In addition, a flare rail at the entrance end will necessitate some 150 feet of standard guardrail.

Following are estimated costs of the various plans:

PLAN "A"

800' GM Rail with base	@ $20 per lin. ft.	$16,000
150 cubic yards excavation	@ $ 3 per cu. yd.	450
150' Type 2A Guardrail for flare	@ $ 6.50 per lin. ft.	975
450 cubic yards cushion material	@ $ 2 per cu. yd.	900
		$18,325

PLAN "B"

800' 6-foot Chain Link Fence	@ $3.50 per lin. ft.	$ 2,800
950' Type 2A Guardrail	@ 6.50 per lin. ft.	6,175
450 cubic yards cushion material	@ 2.00 per cu. yd.	900
		$ 9,875

PLAN "C"

950' Type 2A Guardrail	@ $6.50 per lin. ft.	$ 6,175
950 cubic yards dike material	@ 2.00 per cu. yd.	1,900
		$ 8,075

We therefore request your concurrence and approval of Plan "A".

Very truly yours,

Forrest Cooper
State Highway Engineer

By

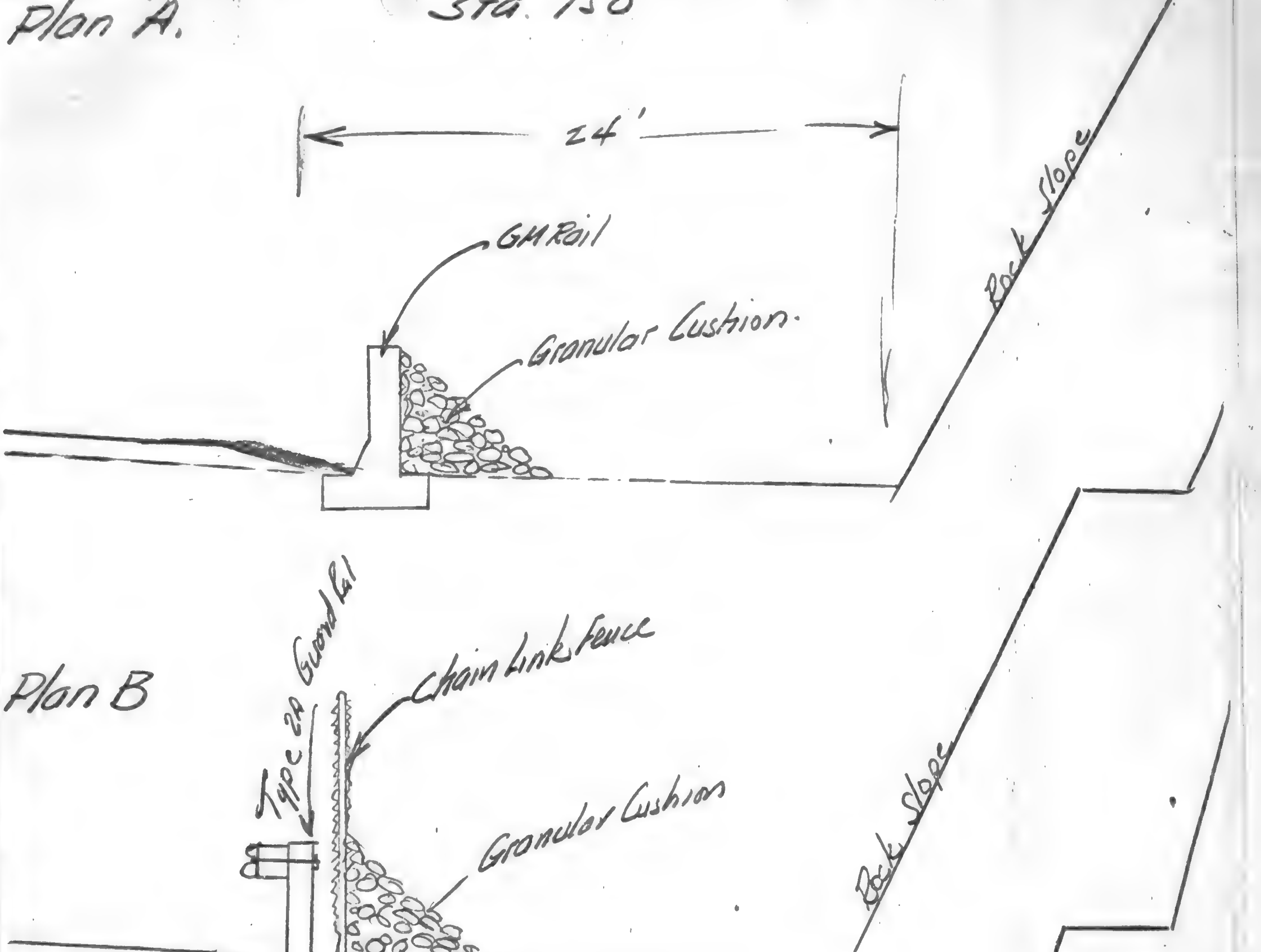
F. B. Klaboe
Assistant State Highway Engineer

Attachment

cc: Forrest Cooper
R. L. Porter
F. D. Morgan

JHW:fw srb

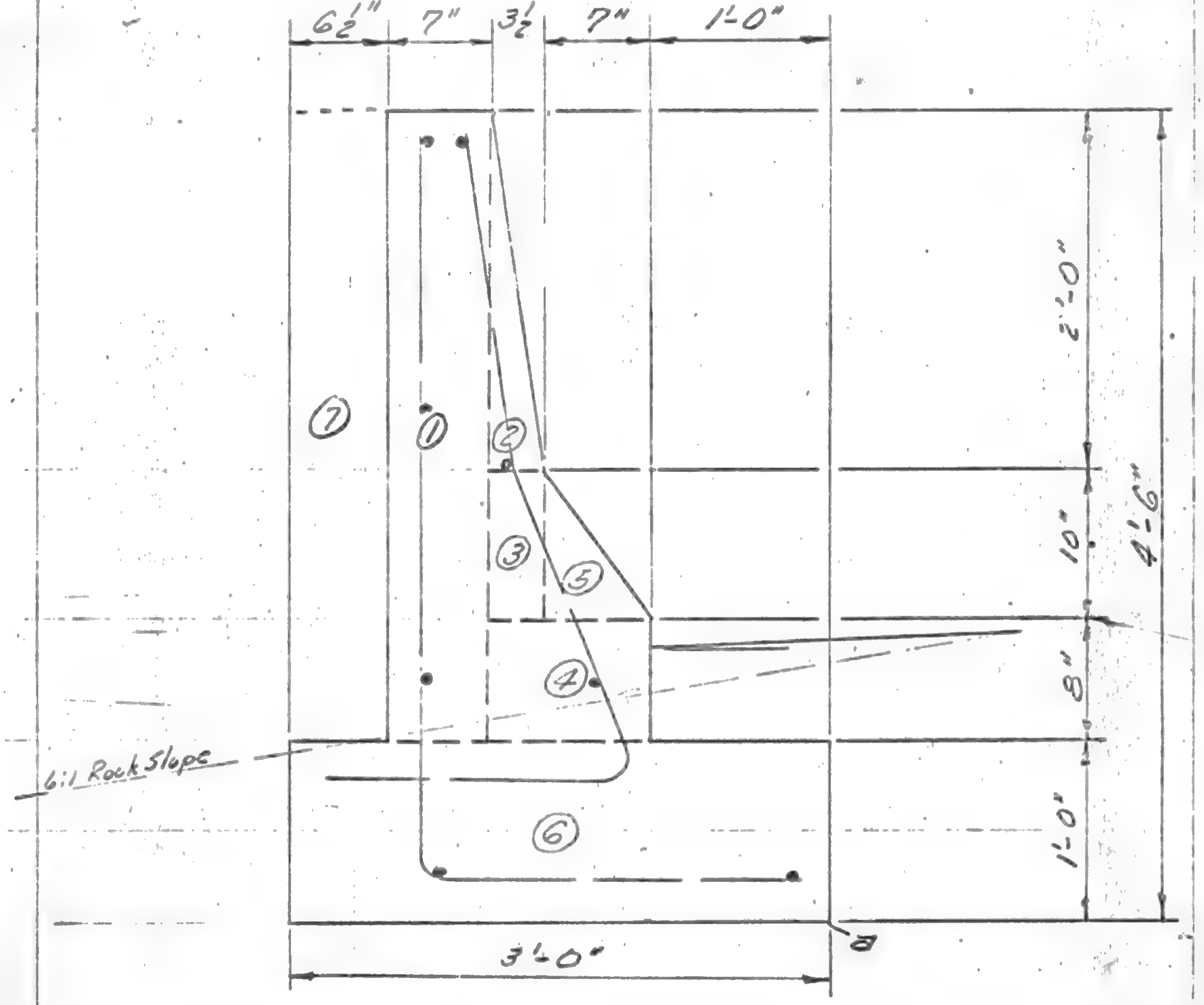
Considered Barriers at Lime Section Cut. Sta. 750


Plan A.
24'
GM Rail
Granular Cushion.
Rock Slope
Plan B
Type 2A Guard Rail
Chain Link Fence
Granular Cushion
Rock Slope
Plan C
Type 2A Guard Rail
Granular Dike
Rock Slope

Retaining Wall Time Section

Fredrickson
3-15-70

Trial Section - #2


6½"
7"
3½
7"
1'-0"
2'-0"
10"
8"
1'-0"
4'-6"
⑦
①
②
③
⑤
④
⑥
6:1 Rock Slope
a
3'-0"

Taking moments about pt. "a"

Part	Area □'		Wt.#	Arm'	Moment '#
1.	0.58 × 3.50	= 2.03	304.5	2.17	660.8
2		0.29	43.5	1.77	77.0
3		0.24	36.0	1.73	62.3
4	0.67 × 0.87	= 0.58	87.0	1.44	125.3
5		0.24	36.0	1.39	50.0
6		3.00	450.0	1.50	675.0
		6.38 □'	957.0 #		1650.4 '#

For impact at top of wall, load allowed = 1650.4 ÷ 4.5 = 366.75#
Spread over 10' = 3667#
" " 20' = 7335#

c.g. @ 1650.4 ÷ 957 = 1.72' from toe (a)

ok
El Johnson @ 20¢/ft

Trial Section - #2

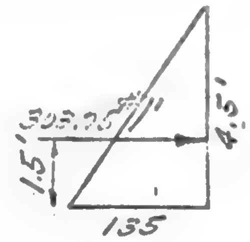
Assume level fill behind wall - (120#/cu.ft.)

Additional restraining moment -

Part	Area □'	Wt. #	Arm '	Moment '#
7	.54 × 3.5 = 1.89	226.8	2.73	619.16
1-6		957.0		1650.4
		1183.8 #		2269.6 '#

Overturning moment - Assume 30# equiv. pressure

4.5 × 30 = 135#/□', 4.5 × 135 × 1/2 = 303.75, 303.75 × 1.5 = 456'#/'



Resultant moment = 2269.6 − 456 = 1813.6

c.g. of resultant moment -

1813.6 ÷ 1183.8 = 1.53' from toe (a)

Bearing on ftg. almost equal, or about 400#/□'

Reinforcement req'd -

Assume 400#/' at top of wall -

M @ top of footing = 400 × 3.5 = 1400'# = 16,800"#/'

With 2" cl. to steel, d = 17 1/2 − 2 1/2 = 15" +

$A_s = {}^{16,800}/_{20,000 \times 15 \times .875} = .064$ □"/'

#4 @ 12" = 0.20 □"/' - Use #4 @ 12"

Using #4 bars, re-bar per ft. =

bar "A" = 4.83'
bar "B" = 5.42'
Spcrs = 8.00'

18.25'/' @ .668#/' = 12.2#/' @ 0.15 = $1.83

Conc. 6.38 □' = 0.236 cu.yd./' @ $75/cu.yd. = $17.70

Cost/lin.ft. $19.53

Say $20/lin.ft. plus ex. & paving

Form E-206—5M—1-56

RECEIVED
APR 13 1970
OFFICE OF
STATE HIGHWAY ENGINEER

I 80N-7(25) 341
718

STATE COPY G-1P

OREGON STATE HIGHWAY DEPARTMENT

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

APPROVED EFFECTIVE DATE 1970
Contingent upon modification of project agreement if additional funds are required
BY
TITLE Dist. Engineer
DATE APR 8 1970
U. S. BUREAU OF PUBLIC ROADS

Project Name	Lime	Date	~~March 30~~ 8, 1970
Highway	Old Oregon Trail	Contract No.	7185
County	Baker	Prefix	601-1065
Contractor	Roy L. Houck Sons' Corporation	F. A. Project No.	I-80N-7(25)341
Address	P.O.box 671, Salem, Oregon 97308	Order No.	16

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done:

Rent fully operated concretet planer to gring heave in P.C.C. Pavement

Location by station numbers:

703+00

Estimate of quantities and cost:

8 hr. Operating time @ $ 90.00	=	$ 720.00		Labor =	$ 60.00
Move in and move out costs lump	=	400.00		+20% =	12.00
8 hr. Water wagon @ $ 5.50	=	44.00	Subtotal	Subtotal	$ 72.00
		$1,164.00 + 15% = $1338.60		Total	$ 1,410.60

Maximum equipment rates allowable as per A.G.C. - State Agreement.
Percentage allowed contractor is in accordance with executed contract for this job.
The net cost effect of this work order is a contract cost increase of $ 1,410.60.

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")

~~The contractor is not equipped to perform this work~~

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization	$4,178,926.12
Present estimate of project cost, including $ 1,410.60 for work under this order	$4,000,266
Expected under-run ~~over-run~~ amount	$ 178,660.12
Expected under-run ~~over-run~~ per cent	4.28

Space to right of this line is for use of Salem Office

Submitted by: E.S.Thompson
Resident Engineer

Approval Recommended: Alfred Shenley Jr.
Division Engineer

Approval Recommended: for Construction Engineer or Bridge Engineer

Approved: F. D. Morgan
~~Deputy State Highway Engineer or Assistant State Highway Engineer~~

4-13-70

State Printing 9515

RECEIVED
MAR 30 1970
FOR FILING

I-80N-7(25)341

7185

March 27, 1970

Wallis & Churchill
Attorneys at Law
P. O. Box 1253
Boise, Idaho 83701

Gentlemen:

Contract No. 7185 awarded to Roy L. Houck Sons' Corporation for the Lime Section on the Old Oregon Trail has not been either completed or accepted by the Highway Commission.

As you probably know, the six-months' period for filing claims under the bond begins with the date of acceptance by the Highway Commission. Quite a few claims have been filed against this contract.

This is in response to your letter of March 25.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

FQ:sj

WALLIS & CHURCHILL
ATTORNEYS AT LAW
POST OFFICE BOX 1253
BOISE, IDAHO 83701

RANDALL WALLIS
WINSTON H. CHURCHILL

404 IDAHO BUILDING
AREA CODE 208
TELEPHONE 342-5893

March 25, 1970

Mr. Floyd Query, Secretary
Oregon State Highway Commission
State Highway Building
Salem, Oregon 97310

Dear Mr. Query:

Thank you for your letter of March 17, 1970. I would like to know whether this job has been accepted and whether the date is running on the six months in which to file claims. Are there others that have filed claims on this job?

Very truly yours,

Winston Churchill

Winston H. Churchill

WHC:rb

RECEIVED
MAR 26 1970
OREGON
STATE HIGHWAY COMMISSION

41-0534

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

March 17, 1970

Wallis & Churchill
Attorneys at Law
P. O. Box 1253
Boise, Idaho 83701

Attention: W. H. Churchill

Gentlemen:

This is to acknowledge receipt of your letter of March 11 on behalf of Blackline Asphalt Sales, Inc., stating that Page Paving Co., subcontractor of Roy L. Houck, owes them for material in the amount of $64,343.83.

Your letter also states that Roy Houck Sons' Corporation owes Blackline Asphalt Sales, Inc., for materials in the amount of $2,657.01.

We received in yesterday's mail your letter of March 13 advising us to disregard that portion of your letter of March 11, 1970 regarding the amount due from Page Paving Co. and that you still wish to file your claim against Roy Houck Sons' Corporation in the amount of $1,657.01

From the description given in your letters, this appears to be in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc. 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract. We will advise them of the receipt of your claim letters and we will also forward them to the Secretary of State for filing.

Please let us know when your client's claim has been satisfied.

RECEIVED
MAR 26 1970
OREGON
STATE HIGHWAY COMMISSION

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc: The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation

c

[illegible]
MAR 2[illegible] 1970
FOR FILING

I-80N-7(35)341
7185

March 23, 1970

Roy and Owen's Tire Service
586 North Oregon Street
Ontario, Oregon 97914

Attention: Marjorie Matsumoto

Gentlemen:

Thank you for your letter of March 16 advising us that you have received a check for $53.85 in connection with your claim against Roy L. Houck Son Construction.

Our records indicate that this is in reference to your claim filed against the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures, and signing on the Lime Section of the Old Oregon Trail in Baker County.

This information is being noted in our records and we will advise the surety, the agent, and the contractor of the receipt of your letter.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc Roy L. Houck Sons' Corporation
The Aetna Casualty and Surety Company
Updegraff Insurance, Inc.

Commissioners

CWH:fkn

[illegible]
3-23-70
fn

GENERAL TIRE

ROY & OWEN'S TIRE SERVICE

586 North Oregon St. • Ontario, Oregon

Phone 889-8432

March 16, 1970

Oregon State
Highway Division
Att: Mr. Floyd Query
Highway Building
Salem, Oregon 97310

Dear Mr. Query

In regard to your correspondence dated February 11, 1970 concerning collecting for us, a Roy Houck & Son Construction, Lime Section Contract number 7185 account, we are happy to report to you, that they have paid. We received a check for $53.85.

We do appreciate all that you have done. Thank you very much.

Sincerely,

Marjorie Matsumoto

RECEIVED
[illegible] 1970
OREGON
STATE HIGHWAY COMMISSION

NOTED
FLOYD QUERY

AMERICA'S TOP QUALITY TIRE... GOES A LONG WAY TO MAKE FRIENDS...

NOTED
C. W. HEAD

RECEIVED
APR 3 - 1970
FOR FILING

Claim 4484
FILED
MAR 24 1970
CLAY MYERS
SECRETARY OF STATE

Files

[illegible] 341
7185

**OREGON STATE
HIGHWAY DIVISION**

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

March 23, 1970

Baker Valley Enterprises, Inc.
P. O. Box 169
Baker, Oregon 97814

Attention: Mr. Richard Mark
President

Gentlemen:

This is to acknowledge receipt of your letter of March 17 advising us that Stach Construction Company owes you $456 dating from July 28, 1969, to February 20, 1970. You also mention that R. L. Houck Sons, Inc., owes you $750 dating from April 1, 1969, to December, 1969.

From the description in your letter, this appears to be in connection with Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures, and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty and Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S. E., Salem, Oregon 97301 furnished the performance bond on this contract. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

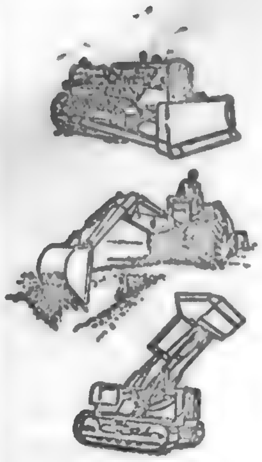
NOTED ON CARD
3-26-70 CR

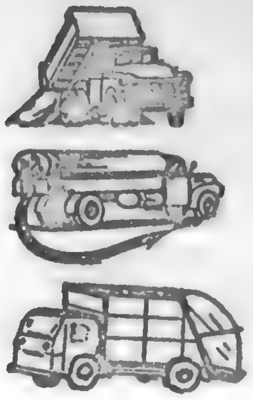
Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc Roy L. Houck Sons' Corporation
The Aetna Casualty and Surety Company
Updegraff Insurance, Inc.

Hon. Clay Myers ✓ - Please acknowledge receipt of the attached claim letter on the enclosed copy of this letter.

NOTED
C. W. HEAD





Baker Valley Enterprises Inc.
P.O. Box 169
BAKER, OREGON 97814

March 17, 1970

Floyd Query
Secretary of Highway Commission
Highway Dept. Bldg.
Salem, Oregon 97310

Re: Lime Section- Rental & Service Chemical Toilets
Project #601-1065

Dear Mr. Query:

In a recent discussion with Mr. Thompson, resident engineer based at Ontario, he suggested that we file a claim with your office pertaining to charges pending with R. L. Houck Sons, Inc. and Stach Construction Co.

Repeated billings have been ignored and recently two separate letters were sent to each firm requesting not only the payments due, but at least an answer to the letters. As of this date we have heard nothing from either firm.

We therefore wish to file formal notice with your office on the following charges due our firm; Stach Construction Company, $456.00 dating from July 23, 1969 to February 20, 1970. R. L. Houck Sons, Inc. $750.00 dating from April, 1969 to December 1969. ✓

We will be glad to furnish your office any further information you may desire.

Very truly yours,

BAKER VALLEY ENTERPRISES, Inc.

Richard Mark

Richard Mark,
President

RM:kr

NOTED
FLOYD QUERY

Specialists in Solid and Liquid Waste Disposal . . . Sanitary Land Fills . . . Earth Moving

RECEIVED
APR 14 1970

FOR FILING

I-80N-7(25)341
7185

March 18, 1970

Roy L. Houck Sons' Corporation
P. O. Box 671
Salem, Oregon 97308

Gentlemen:

The State Highway Commission at its meeting on March 17, 1970, considered your request for an extension of 69 days on Contract No. 7185 for work on the Lime Section of the Old Oregon Trail in Baker County.

Careful consideration was given to the reasons you submitted. However, in light of the available facts and the provisions of the contract, the Commission granted you a 29-day time extension.

If there are pertinent facts which have not yet been considered, you should contact the Resident Engineer, the Division Engineer, or the Construction Engineer in the Salem Office.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr

bc: F. D. Morgan
V. E. Skoog
H. S. Coulter
E. S. Thompson
Bureau of Public Roads

Form FHWA-121 (12-67)
UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Bureau of Public Roads
Box 300
Salem OR 97308

DATE: February 24, 1970

In reply refer to: 08-35-DA5

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Project I-80N-7(25)341
Lime Section
Old Oregon Trail Highway
Contract No. 7185 - Re Time Extension

Reference is made to Mr. Klaboe's February 10, 1970 letter on the subject project.

Your request for extending the contract time on the subject project 29 calendar work days is approved.

copies to [illegible]
[illegible]
2-26-70

RECEIVED
FEB 26
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

Files

4478

RECEIVED
MAR 25 1970
FOR [illegible]

FILED
MAR 18 1970
CLAY MYERS
SECRETARY OF STATE

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

March 17, 1970

Portland Bolt & Manufacturing Co.
930 N.W. 14th Avenue
Portland, Oregon 97209

Attention: Mr. C. H. Llewellyn
Vice President

Gentlemen:

This is to acknowledge receipt of your claim letter of March 13 advising us that Stach Construction Company (subcontractor) owes you for materials in the amount of $1,143.64.

This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures, and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

ORIGINAL SIGNED
FLOYD QUERY

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

NOTED ON CARD
3-23-70
CP

RECEIVED
MAR 20 1970
OREGON
STATE HIGHWAY COMMISSION

cc: The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation
Commission
Hon. Clay Myers - Please acknowledge receipt of this claim on the enclosed copy of this letter.

Portland Bolt & Manufacturing Co.

930 N. W. 14th Ave.
Portland, Oregon 97209
Phone: 227-5488

March 13, 1970

To: Oregon State Highway Commission
State Highway Bldg
Salem, Oregon

Notice is hereby given That the undersigned, Portland Bolt & Manufacturing Co., has claim for materials furnished (bolts, nuts, washers & rods.,) by Portland Bolt & Manufacturing Co to Stach Construction Company, a sub-contractor, in the sum of One Thousand one hundred forty three dollars and sixty four cents ($ 1,143.64) against the bod taken from Roy L. Houck Son's Corp., Salem, Oregon, as principal and Aetna Life and Casualty, Portland, Oregon, as surety for the work of

Malheur County - Lime Section of the Old
Oregon Trail
State of Oregon Highway Department Contract # 7185.

PORTLAND BOLT & MANUFACTURING CO

C H Llewellyn

By: C.H. Llewellyn
Vice President

930 N.W. 14th Ave
Portland 97209

NOTED
FLOYD QUERY

RECEIVED
MAR [illegible] 1970
OREGON
STATE HIGHWAY COMMISSION

HOT DIP GALVANIZING • BOLTS • NUTS • WASHERS • BRIDGE • RODS • BUILDERS IRON WORK

Files

4477

FILED
MAR 18 1970
CLAY MYERS
SECRETARY OF STATE

RECEIVED
MAR 25 1970

1859

**OREGON STATE
HIGHWAY DIVISION**

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

March 17, 1970

Wallis & Churchill
Attorneys at Law
P. O. Box 1253
Boise, Idaho 83701

Attention: W. H. Churchill

Gentlemen:

This is to acknowledge receipt of your letter of March 11 on behalf of Blackline Asphalt Sales, Inc., stating that Page Paving Co., subcontractor of Roy L. Houck, owes them for material in the amount of $54,343.83.

Your letter also states that Roy Houck Sons' Corporation owes Blackline Asphalt Sales, Inc., for materials in the amount of $1,657.01.

We received in yesterday's mail your letter of March 13 advising us to disregard that portion of your letter of March 11, 1970, regarding the amount due from Page Paving Co. and that you still wish to file your claim against Roy Houck Sons' Corporation in the amount of $1,657.01

From the description given in your letters, this appears to be in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract. We will advise them of the receipt of your claim letters and we will also forward them to the Secretary of State for filing.

Please let us know when your client's claim has been satisfied.

RECEIVED
MAR 20 1970
OREGON
STATE HIGHWAY COMMISSION

Very truly yours,

3-23-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc: The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation
Commission
Hon. Clay Myers - Please acknowledge receipt of this claim on the enclosed copy of this letter.

WALLIS & CHURCHILL
ATTORNEYS AT LAW
POST OFFICE BOX 1253
BOISE, IDAHO 83701

RANDALL WALLIS
WINSTON H. CHURCHILL

404 IDAHO BUILDING
AREA CODE 208
TELEPHONE 342-5693

March 13, 1970

Mr. Floyd Query, Secretary
State Highway Commission
State Highway Building
Salem, Oregon 97301

RE: Project No. 1-80N-7(25) 341 Baker County, Oregon (Lime)

Dear Mr. Query:

This letter is to confirm our phone conversation of March 13, 1970. Please refer to our previous letter of March 11, 1970, and disregard that portion of the letter regarding the amount due from Page Paving Company.

However, we still wish to have a claim against Roy Houck Sons, Corp. in the sum of $1657.01.

Very truly yours,

WALLIS & CHURCHILL

By Myron D. Gabbert, Jr.

MDG:rb

NOTED
FLOYD QUERY

WALLIS & CHURCHILL
ATTORNEYS AT LAW
POST OFFICE BOX 1253
BOISE, IDAHO 83701

RANDALL WALLIS
WINSTON H. CHURCHILL

404 IDAHO BUILDING
AREA CODE 208
TELEPHONE 342-5693

March 11, 1970

Mr. Floyd Query, Secretary
State Highway Commission
State Highway Building
Salem, Oregon 97301

RE: Project No. 1-80N-7(25) 341 Baker County, Oregon (Lime)

Dear Mr. Query:

Our firm represents Blackline Asphalt Sales, Inc.

Blackline Asphalt Sales, Inc. furnished materials to Page Paving Company, the sub-contractor of Roy L. Houck, Prime contractor on the above entitled job beginning October 22, 1969, and furnished the last material on February 28, 1970. As of this date, there is due, oweing and unpaid, from Page Paving Company to Blackline Asphalt Sales, Inc. the sum of $54,343.83.

During the period of October 22, 1969 through December 31, 1969, Blackline Asphalt Sales, Inc. furnished to Roy Houck Sons Corp. on the same project above named, materials in the amount of $1657.01. There is still due, oweing and unpaid from Roy Houck Sons Corp. to Blackline Asphalt Sales, Inc. the said sum of $1657.01.

It is my understanding, after my associate talked with you on March 11, 1970, that this letter will be sufficient compliance in order to protect the rights of Blackline Asphalt Sales, Inc. as against these two companys and the performance bonds they have posted.

If there is anything further needed by you in order to insure our compliance with your requirements, please let me know at your earliest convenience.

Very truly yours,

Winston H. Churchill

WHC:rb

RECEIVED
[illegible]

RECEIVED
MAR 10 1970

FOR FILING

I-80N-7185) 341

7185

March 10, 1970

Alaska Steel Company
2750 S. W. Moody
Portland, Oregon 97201

Attention: Lance L. Lyon
Credit Department

Gentlemen:

Your letter of March 9 refers to a claim which you have against the Lime Section of the Old Oregon Trail.

Roy L. Houck Sons' Corporation, P. O. Box 671, Salem, Oregon 97308 holds our Contract No. 7185 for this project. The Aetna Casualty and Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, Oregon 97301 furnished the performance bond for this contract.

It is our understanding that Stach Construction Company holds a subcontract on this project, but we do not know if Stach is bonded to Houck. The State deals only with the principal contractor.

If you wish to file a claim with us, you may do so by sending us a letter containing pertinent information as to the kind of claim, amount, when incurred and so forth.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

FQ:fkn

ALASKA STEEL CO. JOBBERS AND DISTRIBUTORS
ESTABLISHED 1911
2750 S. W. MOODY PORTLAND, OREGON 97201
TELEPHONE: 228-7501

March 9, 1970

Mr. Floyd Query, Secretary
Oregon State Highway
Highway Building
Salem, Oregon 97310

Dear Sir:

We have been unable to get a reply from The St. Paul Insurance Company regarding the bond on The Lime Section of the Old Oregon Trail job.

Three times I wrote to them inquiring as to how to file a claim on this job as our records show that $9,454.30 in steel was shipped for the job; we never received the courtesey of a reply.

Would you let me know who the bonding company of record is for the above job for Stach Construction Company.

Very truly yours,

ALASKA STEEL CO.

Lance L Lyon

Lance L. Lyon
Credit Department

LLL/hs

cc: St. Paul Insurance Co.
200 Mills Building
San Francisco, Calif. 94106

Attn: J. M. Homer

RECEIVED
[illegible]
OREGON
STATE HIGHWAY COMMISSION

Form. E-306-AM

RECEIVED
MAR 20 1970
OFFICE OF
STATE HIGHWAY ENGINEER

STATE COPY

B-11

OREGON STATE HIGHWAY DEPARTMENT

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

APPROVED EFFECTIVE DATE
Contingent upon modification of project agreement if additional funds are required
BY
TITLE Dist. Engineer
DATE 27 MAR 1970
U. S. BUREAU OF PUBLIC ROADS

Project Name	Lime Section	Date	March 9, 1970
Highway	Old Oregon Trail	Contract No.	7185
County	Baker	Prefix	601-1065
Contractor	Roy L. Houck Sons' Corporation	F. A. Project No.	I-80N-7(25)341
Address	P. O. Box 671, Salem, Oregon 97308	Order No.	15

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done:

Construct four brush curbs on old concrete structure.

NOTED
F. B. KLABOE

Location by station numbers:

"E" 667+50

Estimate of quantities and cost:

Material	$65.00	Labor	$160.00
+15%	9.75	+20%	32.00
Subtotal	$74.75	Subtotal	$192.00

Total = $266.75

Maximum equipment rates allowable as per A.G.C. - State agreement.
Percentage allowed contractor is in accordance with executed contract for this job.
Net effect of this work order is a contract cost increase of $266.75.

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")

Contractor price quote could not be justified.

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization	$4,178,926.12	
Present estimate of project cost, including $266.75 for work under this order	$3,993,140	
Expected under-run ~~over-run~~ amount	$185,786.12	
Expected under-run ~~over-run~~ per cent	4.44	

Space to right of this line is for use of Salem Office

Submitted by: E. S. Thompson
E. S. Thompson Resident Engineer

Approval Recommended: Construction Engineer or Bridge Engineer

Approval Recommended: Alfred Healy Division Engineer

Approved: 3-31-70
Deputy State Highway Engineer, Assistant State Highway Engineer or, Office Engineer.
Construction

SP*23577-734

Form 2-109-4M

RECEIVED
MAR 30 1970
OFFICE OF
STATE HIGHWAY ENGINEER

STATE COPY

OREGON STATE HIGHWAY DEPARTMENT

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

APPROVED EFFECTIVE DATE
Contingent upon modification of project agreement if additional funds are required
BY L. Valach
TITLE Dist. Engineer
DATE March 9 1970
U. S. BUREAU OF PUBLIC ROADS

Project Name: Lime ~~Station~~

Highway: Old Oregon Trail

County: Baker

Contractor: Roy L. Houck Sons' Corporation

Address: P. O. Box 671, Salem, Oregon 97308

Date:

Contract No.: 7185

Prefix: 601-1065

F. A. Project No.: I-80N-7(25)341

Order No.: 14

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done:

Furnish and install cattle guard metal end posts and attach fence.

NOTED
F. B. KLABOE

Location by station numbers:

"B" 817+75, "C" 817+75, "D" 816+50

Estimate of quantities and cost:

Material	$110.00	Labor	$106.00	
+15%	16.50	+20%	21.20	
Subtotal	$126.50	Subtotal	$127.20	Total = $253.70

Maximum equipment rates allowable as per A.G.C. - State agreement.
Percentage allowed contractor is in accordance with executed contract for this job.
Net effect of this work order is a contract cost increase of $253.70.

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")

Contractor price quote could not be justified.

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization	$4,178,926.12
Present estimate of project cost, including $253.70 for work under this order	$3,992,874
Expected under-run ~~over-run~~ amount	$186,052.12
Expected under-run ~~over-run~~ per cent	4.45

Space to right of this line is for use of Salem Office

Submitted by: E. S. Thompson
E. S. Thompson
Resident Engineer

Approval Recommended:
Construction Engineer or Bridge Engineer

Approval Recommended:
Division Engineer

Approved:
~~Deputy State Highway Engineer,~~
~~Assistant State Highway Engineer or~~
Office Engineer.
Construction

3-31-70

SP*23577-734

I-80N-7(25)341

RECEIVED
MAR 25 1970
OFFICE OF
STATE HIGHWAY ENGINEER

Form E-20-414

STATE COPY

6-15

OREGON STATE HIGHWAY DEPARTMENT

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

APPROVED EFFECTIVE DATE
Contingent upon modification of project agreement if additional funds are required
BY
TITLE Dist. Engineer
DATE 24 MAR 1970
U. S. BUREAU OF PUBLIC ROADS

Project Name: Lime Section
Highway: Old Oregon Trail
County: Baker
Contractor: Roy L. Houck Sons' Corporation
Address: P. O. Box 671, Salem, Oregon 97308

Date: March 6, 1970
Contract No.: 7185
Prefix: 601-1065
F. A. Project No.: I-80N-7(25)341
Order No.: 13

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done:

Exploration to determine cause of heaved pavement areas. Repave areas disturbed by investigation.

NOTED
F. B. KLABOE

Location by station numbers:

703 to 704

736

Estimate of quantities and cost:

Material	$36.00	Equipment	$110.00	Labor	$174.12	
+15%	5.40	+15%	16.50	+20%	34.82	
Subtotal	$41.40	Subtotal	$126.50	Subtotal	$208.94	Total = $376.84

Maximum equipment rates allowable as per A.G.C. - State agreement.
Percentage allowed contractor is in accordance with executed contract for this job.
The net cost effect of this work order is a contract cost increase of $376.84.

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")

This work can be best handled under extra work order.

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization: $4,178,926.12
Present estimate of project cost, including $376.84 for work under this order: $3,992,620
Expected under-run ~~over-run~~ amount: $186,306.12
Expected under-run ~~over-run~~ per cent: 4.46

Space to right of this line is for use of Salem Office

Submitted by: E S Thompson
E. S. Thompson, Resident Engineer

Approval Recommended: Alfred [illegible], Dist Division Engineer

Approval Recommended: Construction Engineer ~~or Bridge Engineer~~

Approved: [illegible] ~~Deputy State Highway Engineer, Assistant State Highway Engineer or Office Engineer.~~

Original to Morgan 3/25/70

RECEIVED
MAR 10 1970
FOR FILING

Claim File 4475

Files

FILED
MAR - 6 1970
CLAY MYERS
SECRETARY OF STATE

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

March 5, 1970

Spokane Culvert &
Fabricating Company
East 6212 Main Avenue
Spokane, Washington 99206

Gentlemen:

This is to acknowledge the receipt of your claim letter of March 2, 1970, advising us that Roy L. Houck Sons owes you for material in the amount of $1,566.23.

This appears to be in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract. We will advise them of the receipt of your claim, and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

NOTED ON CARD
3-9-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc: The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation
Commission
Hon. Clay Myers - Please acknowledge receipt of this claim on the enclosed copy of this letter.

RECEIVED
MAR 9 1970
OREGON
STATE HIGHWAY COMMISSION

NOTED
C. W. HEAD

SPOKANE CULVERT & FABRICATING COMPANY
EAST 6212 MAIN AVE. • 509 KE5-1571 • SPOKANE, WASHINGTON 99206

2 March 1970

Mr. Floyd Query
State Highway Department
State of Oregon
State Highway Building
Salem, Oregon 97310

Re: Roy L. Houck Sons' Corporation .Salem, Oregon
Contract No 7185 Prefix No 601-1065, F.A.P. I 80N 7(25)341
Lime Section
Old Oregon Trail Highway
Huntington, Oregon

Gentlemen:

We wish to file a claim against above referenced contractor for material furnished him for work performed under above referenced contract.

Unpaid July 1969 and August 1969 Invoices total	$1258.40
Interest Due on past due account	69.44
Unpaid September 1969 Invoice	229.38
Interest Due on past due account	9.01
Total Now due and unpaid	$$1566.23

Please let me know what other information you will require and/or copies of invoices etc.

It is our understanding that Aetna Life and Casualty Company, Portland, Oregon is the bonding company for Houck.

Thank you for your help in this matter,

Sincerely,

SPOKANE CULVERT AND FABRICATING COMPANY

Carolyn M. Carr

Carolyn M. Carr
Credit Manager

CMC:c

NOTED
FLOYD QUERY

Cw

RECEIVED
MAR 23 1970
OFFICE OF
STATE HIGHWAY ENGINEER

I-80N-7(25)349
7185

STATE COPY

G-1P

OREGON STATE HIGHWAY DEPARTMENT

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

APPROVED EFFECTIVE DATE 3/26/70
Contingent upon modification of project agreement if additional funds are required
BY
TITLE Dist. Engineer
DATE
U. S. BUREAU OF PUBLIC ROADS

Project Name: Lime ✓
Date: March [illegible], 1970
Highway: Old Oregon Trail ✓
Contract No.: 7185 ✓
County: Baker ✓
Prefix: 601-1065 ✓
Contractor: Roy L. Houck Sons' Corporation ✓
F. A. Project No.: I-80N-7(25)341 ✓
Address: P. O. Box 671, Salem, Oregon 97308 ✓
Order No.: 12 ✓

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done:

Remove slope ravelling and reshape as required. at locations indicated and at other locations throughout the project as required.

Location by station numbers:

704 to 705

792 to 793

NOTED
F. B. KLABOE

Estimate of quantities and cost:

Equipment Rental	$738.00	Labor	$423.63	
+15%	110.70 ✓	+20%	84.73 ✓	
Subtotal	$848.70 ✓	Subtotal	$508.36 ✓	Total = $1,357.06 ✓

Maximum equipment rental rates allowable as per A.G.C. - State agreement. Percentage allowed contractor is in accordance with executed contract for this job. Net effect of this work order is a contract cost increase of $1,357.06.

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")

In accordance with Standard Specification Section 102-3.16.

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization	$4,178,926.12	✓
Present estimate of project cost, including $1,357.06 ✓ for work under this order	$3,992,243	
Expected under-run ~~over-run~~ amount	$186,683.12	
Expected under-run ~~over-run~~ per cent	4.47	

Space to right of this line is for use of Salem Office

Submitted by: E. S. Thompson
E. S. Thompson, Resident Engineer

Approval Recommended: Construction Engineer ~~or Bridge Engineer~~

Approval Recommended: Division Engineer

Approved: F. B. Morgan

Original to Morgan 3-24-70

RECEIVED
MAR 4 - 1970
FOR FILING

2-80N-7185 3541
7185

March 3, 1970

Oregon State Highway Commission

Gentlemen:

Request for Extension of Time
No. 4
March 17, 1970 meeting

Roy L. Houck Sons' Corporation, contractor on the Lime Section of the Old Oregon Trail Highway, (I-80N), Contract No. 7185, in Baker County, has requested a 69-day time extension. The contractor cites five reasons related to unforeseen work added to the contract, increases in contract quantities, and a delay in work within the project done by railroad forces.

Work was added in the immediate vicinity of the Lime Overcrossing structure to remove unsuitable foundation material in the embankment area at the northerly end of the structure. This delayed the fill placement which in turn delayed structure work on the end bent. This reason justifies 10 additional days.

Considerable excess material arising from slide removal and other sources was used to widen embankments and flatten slopes creating larger fill areas to be seeded and mulched. This item will overrun some 35 percent and this work is done late in the project. This reason justifies three days' extension.

Due to more urgent work elsewhere on their system, the railroad forces did not reach the project at the time originally scheduled for relocating the railroad signal and communication lines and constructing the contractor's temporary crossing. Considerable excavation material on this project had to be moved across the railroad and this delay justifies 16 days' extension.

The excavation overruns arising from removal of slide material and removal of the cut adjacent to the railroad at the overcrossing structure were accomplished concurrent with other more critical items and do not appear to have delayed completion of the project.

Based on the first three reasons previously mentioned, I recommend a 29-day time extension. This will leave 12 days liquidated damages in effect at the present time at the rate of $300 per day or $3,600. The project should be completed in early spring with a few days additional time to accrue, as the day count resumed on March 1. This is a Federal-aid Interstate project and we have the concurrence of the Bureau of Public Roads.

This matter will be on the agenda for your consideration at the March 17 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
F. B. Klaboe
V. D. Wolfe
V. E. Skoog
H. S. Coulter
F. D. Morgan

JAB:fw sr

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request

for

Increase in Number of Workdays

to

Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 7185 Contractor Roy L. Houck Sons Corporation

Highway Old Oregon Trail

Section Lime

Kind of Work Grading, paving, structures and signing

It is recommended that the request for increase in the number of workdays within which to complete said contract be **DENIED** or **GRANTED**. The reasons for such recommendation are as follows:

XXXXXX

Grant 29 days for Embankment Foundation Excavation (P.A. #7), 35% overrun in seeding and mulching, and early December, 1968 delay in railroad work.

Recommended for Approval:

Assistant Division Engineer

John T. Bold

For Construction Engineer or ~~Bridge Engineer~~

F B Klaboe

State Highway Engineer

Contract No.	7185
Project designation	I-80N-7(25)341 State-Federal
Date awarded	10-14-68
Work started	10-21-68
Per cent completed	81% 10-25-69 Date
No. of calendar Workdays Allowed	270
No. of calendar Workdays Used	275
No. of Added Workdays Requested	69

[illegible]

E-[illegible] (Rev.)—[illegible]M—[illegible]-64

OREGON STATE HIGHWAY COMMISSION

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon 97310

Date October 16, 1969

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from 270 days to 339 days, within which to complete our Contract No. #7185, without the assessment of liquidated damages. The said contract is described as follows:

Lime Section

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows:

As per my letter of October 16, 1969

Respectfully submitted,

ROY L. HOUCK SONS' CORPORATION
Contractor

By Jim Lambie

CONSENT OF SURETY

Date October 16, 1969

We, Aetna Casualty & Surety Co.

, as surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

Alice Dahlen
Attorney-in-fact

(SEAL)

Updegraff Ins. Inc
Resident Agent
by Alice Dahlen

FORM E-30 (12-67)

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
February 6, 1970

SUBJECT: Extension of Time
Lime Section
Old Oregon Trail Highway
Contract No. 7185

To:
Mr. F. B. Klaboe
Assistant State Highway Engineer
BUILDING

We have received from Roy L. Houck Sons' Corporation, contractor on the subject contract, the attached request for 69 calendar workdays. The contractor's request is based on work added to the contract, increases in contract quantities, and a delay in relocation of railroad facilities.

One of the added items involved excavation of unsuitable material in an embankment area at Bent 1 of the Lime Overcrossing structure. This work was performed between April 2 and April 11, 1969. No work could be commenced on Bent 1 of the structure until the end fill was in. An extension of 10 calendar workdays is justified.

Slide correction work was performed under an Extra Work Order and a Price Agreement between March and July of 1969. Approximately 80,000 cubic yards of material was removed and the contractor has requested that an extension of 29 days be considered based on his production rate. The nature of the slide work precluded the use of scrapers and the material was removed by front-end loader. This work was performed concurrently with other contract work and does not appear to have delayed the overall project. The structure work, which is still under way, has been the critical phase.

The plans indicated a 10,868 cubic yard excavation bracket for the "railroad cut". This is in the vicinity of the southerly end of the Lime Overcrossing structure or the opposite end of the structure from Bent 1 discussed above. The excavation actually removed from the so-called "railroad cut" amounted to more than 96,000 cubic yard. It had to be wedged out in either direction much further and higher than the plan quantity had anticipated. This material was removed as a separate operation after the main line roadway cut above had been brought down. This cut had to be completed before construction of Bents 4 and 5 of the overcrossing structure could progress as the footings were in the bottom of the cut. Ordinarily, such an overrun would be expected to have a delaying effect; however, as yet, we cannot confirm that this item really caused any delay to the structure. The excavation was apparently completed by May 29, 1969, but the Bent 5 footings were not started until June 17, almost three weeks later. We therefore cannot recommend any time extension on this reason now. We have discussed this point with the Bureau of Public Roads and do not believe they would approve it either. The contractor may make another request with some more convincing argument which would merit our reconsideration.

The seeding and mulching areas have been increased by approximately 17 acres (35 percent) in order to prevent erosion of excess materials wasted on the job. This extra work will be a late item (the total bid item is 63 percent done now) and an extension of 3 calendar workdays is justified based on the actual production rate involved.

At the pre-construction conference, the Union Pacific Railroad had indicated that work on relocating their signal and communication facilities would be started by December 1, 1968. The contractor's schedule also noted that railroad items were critical to the overall progress. Due to storm conditions in the northwest which required railroad crews assigned to this work, the railroad's work was not started until December 17, 1968. The railroad facilities were out of conflict and the temporary haul road crossing was available February 3, 1969. This 16-day delay by the railroad delayed the movement of excavation in both the areas discussed above (from the cut on Bent 5 side to the fill on Bent 1 side) and thereby delayed subsequent work on the overcrossing. An extension of 16 calendar workdays is justified.

The specified 270 calendar workdays expired on October 20, 1969. When the calendar day count stopped for the winter dormant season, 41 calendar workdays over the amount allowed had been charged. The present estimated completion date is April 15, 1970, but with an opening to traffic soon after the structure is done, perhaps within a month.

Based on the reasons listed above, we recommend that the calendar workdays be increased by 29 which will leave 12 days outstanding at the present time amounting to $3,600. This matter has been discussed with the Bureau of Public Roads Area Engineer who agrees that our reasons for granting an extension appear to be valid. Rough drafts of letters to the Bureau of Public Roads and the Highway Commission are attached.

RECEIVED
FEB 6 1970
OFFICE OF
STATE HIGHWAY ENGINEER

F. D. Morgan
Construction Engineer

By

John A. Bond
Construction Administration Engineer

JAB:fw
Attach.
cc V. L. Gallagher

ROY L. HOUCK SONS' CORPORATION
Heavy Construction Contracting
1158 CHEMEKETA ST. N.E. SALEM, OREGON 97308
P.O. BOX 671 PHONE 585-5950

"AN EQUAL OPPORTUNITY EMPLOYER"

October 16, 1969

Mr. E. S. Thompson, Resident Engineer
Oregon State Highway Department
P. O. Box 702
Ontario, Oregon

RE: Oregon State Highway Contract #7185
Lime Section - Old Oregon Trail

Dear Sir:

Roy L. Houck Sons' Corporation requests a Time Extension for completion of Oregon State Department Contract #7185, Lime Section of the Old Oregon Trail Highway.

This request is based on varying site conditions which required additional time to prosecute work not anticipated by the original contract document.

1. Extra Work - Embankment Construction Delay

   Contractor by Price Agreement #7, removed unsuitable material from the Embankment area at Engineers Sta. 661+00. This delayed construction of the embankment required for Bent 1 of the Overcrossing structure.

   This delayed the Project 10 calendar work days as assessed by Contract.

2. Extra Work - Slide Correction Sta. 700+00

   Contractor by Price Agreement #5 removed approximately 80,000 cubic yards of slide material at Engineers Sta. 700+00. The material was excavated by a wheel loader with production capacity of 350 yards per hour.

   This delayed the Project 29 calendar work days as assessed by Contract.

3. Increased Excavation of Material Labelled"Railroad Cut"

   At Engineers Sta. 665+00, and indicated on Plan Sheet #5, the 10,868 cubic yards quantity labelled "Railroad Cut" was increased to approximately 41,500 cubic yards. This material is the excavation that was staked on 1½:1 slope normal to railroad tracks. Because of proximity to the tracks and type of material encountered, it was excavated by wheel loader with production capacity of 350 yards per hour.

This delayed construction of Bents 4 & 5 and the Project by 11 calendar work days as assessed by Contract.

30,632 yds ÷ 350 yds/hr = 88 Hrs. = 11 days

4. Increase of Erosion Control Acres

This quantity has been increased by approximately 17 acres. The areas to be protected are basically areas that require the shoulder work completed prior to application. Production is based on previous application rates as demonstrated by the Subcontractor on the Project. 7 acres/day.

This delayed the Project 3 calendar work days as assessed the Contract.

17 acres ÷ 7 acres/day = 3 days

5. Relocation of Union Pacific Facilities

The permanent relocation of communication and signal lines were to commence on December 1, 1968. This was the Schedule as outlined by Mr. Workman, Union Pacific Railroad Representative at the Pre-Job Conference and confirmed by Mr. Coulters October 21, 1968 correspondence. Due to heavy storm conditions throughout their entire system and especially the Divisions in Oregon, crews could not be dispatched for this relocation when emergency work was required to maintain railroad continuity. Work did not commence until December 17, 1968 with completion on February 3, 1969. This delay by the Union Pacific held up the excavation and embankment at Bents 1, 4 and 5 of the overcrossing structure.

This delayed the Project by 16 days as assessed by Contract.

As allotted Contract time is up October 20, 1969 and it is apparent that completion of the Project will be at some later date, we request that the Department review these reasons for extension at this time. At the final completion of the work, we will again evaluate job conditions and may request additional time if necessary for completion.

Yours very truly,

ROY L. HOUCK SONS' CORPORATION

Jim Lambie

Jim Lambie
Assistant Grading
Division Manager

JL:nk

I-80N-7(25) Lime Section, of Old Oregon 1968
341 Trail, SE of Baker. (Grad., pav.,
#7185 struct. & sign.) Folder #1

RR 6-65
C#11 1397
C#A 3754

Files

RECEIVED
MAR 3 - 1970
FOR FILING
1859

[illegible]) 341

7185

Claim File # 4469

FILED
FEB 26 1970
CLAY MYERS
SECRETARY OF STATE

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

February 25, 1970

Banta, Silven & Young
1950 Third Street
Baker, Oregon 97814

Attention: David C. Silven

Gentlemen:

This is to acknowledge receipt of your letter of February 17 and attached affidavit of Martin A. Matich, which states that Roy L. Houck Sons' Corporation owes them for materials, tools, and labor in the amount of $161,437.35; also, the sum of $36,644.54 retainage.

This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County. The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem 97301, furnished the performance bond on this contract. We will advise them of the receipt of this affidavit and we will also forward it to the Secretary of State for filing.

Please advise this office when your client's claim has been satisfied.

As requested, we are enclosing a certified copy of this contract.

Very truly yours,

NOTED [illegible]
2-27-70
cR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

Enclosure

RECEIVED
FEB 27 1970
OREGON
STATE HIGHWAY COMMISSION

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.

bc Commission
R. L. Porter
G. E. Rohde
Secretary of State- **Please acknowledge receipt of this claim on the enclosed copy of this letter.**

NOTED
C. W. HEAD

LAW OFFICES
BANTA, SILVEN & YOUNG
1950 THIRD STREET
BAKER, OREGON 97814
TELEPHONE 523-4442

HAROLD BANTA
DAVID C. SILVEN
THOMAS F. YOUNG
GARY L. MARLETTE

NICHOLS & HALLOCK
1919-1922
NICHOLS, HALLOCK & DONALD
1923-1929
HALLOCK, DONALD & BANTA
1930-1945
HALLOCK, DONALD, BANTA & SILVEN
1946-1950
HALLOCK, BANTA, SILVEN & HORTON
1951-1954
BANTA, SILVEN & HORTON
1955-1959
BANTA, SILVEN, HORTON & YOUNG
1960-1962

February 17, 1970

State Highway Engineer
Highway Division
Department of Transportation
Salem, Oregon 97310

Dear Sir:

We represent Matich Corporation which performed certain services in connection with paving of Oregon State Highway Contract No. 7185--Old Oregon Trail--Lime Section near Lime, Baker County, Oregon. Roy L. Houck Sons' Corporation was the general contractor.

In accordance with ORS 279.512, we enclose affidavit of the executive vice president of Matich Corporation and respectfully request that you furnish us a certified copy of the contract and bond.

Very truly yours,

David C. Silven

DCS:md

cc: Mr. David G. Moore
Reid, Babbage & Coil
Attorneys at Law
P. O. Box 1300
Riverside, California 92502

RECEIVED
FEB 18 70
OFFICE OF
[illegible]

cdy FC

NOTED
FLOYD QUERY

STATE OF CALIFORNIA,)
ss:
County of)

MARTIN A. MATICH, being first duly sworn, deposes and says that he is the duly elected and acting EXECUTIVE VICE PRESIDENT of Matich Corporation, a California corporation, the mailing address of which is P.O. Box 390, Colton, California; that Matich Corporation is the sub-contractor named in the general sub-contract dated June 23rd, 1969, wherein Roy L. Houck Sons' Corporation, an Oregon corporation, is called the Contractor, under which the sub-contractor agreed to furnish certain materials and tools and labor in the performance of certain concrete paving set forth in Oregon State Highway Contract No. 7185-Old Oregon Trail-Lime Section near Lime, Oregon, for Oregon State Highway Department.

That Matich Corporation fully performed its obligations under said general sub-contract and became entitled to receive the sum of $322,837.35 (plus the retentions hereinafter mentioned); that on December 1, 1969, there was paid to Matich Corporation the sum of $161,400.00 and there is now due, owing and unpaid, the sum of $161,437.35. That in addition thereto there was withheld the sum of $36,644.54 as a retainage until the principal contract is completed in full and the work of the sub-contractor and of the contractor under the principal contract have been accepted by said Oregon State Highway Department.

That the aforesaid claims have not been paid. That Matich Corporation has supplied labor and equipment and materials in the prosecution of the work; that the equipment furnished by Matich Corporation was used in the mixing, hauling, placing and finishing of the reinforced concrete paving contemplated by said Highway Department contract.

That request is hereby made that there be supplied to said corporation a certified copy of the contract between the

State of Oregon, acting by and through its State Highway Commission and said Roy L. Houck Sons' Corporation, pertaining to the aforementioned highway improvement, and a certified copy of the bond filed by said Roy L. Houck Sons' Corporation.

Martin A Matich

SUBSCRIBED and SWORN TO before me this 13th day of February, 1970.

Beverly A Brown
Notary Public for California
My Commission Expires: 11-12-73

OFFICIAL SEAL
BEVERLY A. BROWN
NOTARY PUBLIC-CALIFORNIA
SAN BERNARDINO COUNTY
My Commission Expires Nov. 12, 1973
P. O. Box 390, Colton, Calif. 92324

RECEIVED
FEB 26 1970

FOR FILING

[illegible] 7185)-11

7146

February 25, 1970

The St. Paul Insurance Company
200 Mills Building
San Francisco, California 94106

Attention: Mr. J. M. Homer

Gentlemen:

We have received your draft for $7,578.20 on Claim No. 36 A 800265.

On February 3, 1970, however, we wrote and asked about a balance of $9,454.30 for steel shipped to Stach Construction for use on the Lime Section of the Old Oregon Trail.

7185

We have failed to receive a reply regarding this inquiry.

Please advise.

Very truly yours,

ALASKA STEEL CO.

Lance L. Lynn
Credit Department

Cc

LLL/hs

cc: Oregon State Highway Division
Highway Building
Salem, Oregon
Attention: Floyd Query, Secretary

RECEIVED
FEB [illegible] 1970
OREGON
STATE HIGHWAY COMMISSION

NOTED
C. W. HEAD

NOTED
FLOYD QUERY

Files

RECEIVED
FEB 26 1970

Claim # 446

FILED
[illegible]
CLAY MYERS

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

[illegible] S-11
7185

February 16, 1970

McDowell Bag Company
80 S.E. Madison Street
Portland, Oregon 97214

Attention: Arthur L. Fish

Gentlemen:

This is in reply to your letter of February 10 and attached Notice of Claim stating that Roy L. Houck Sons' Corporation owes you for burlap yardage in the amount of $93.20. This appears to be in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem 97301, furnished the performance bond on this contract. We will advise them of the receipt of your claim and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

NOTED ON CARD
2-19-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

RECEIVED
FEB 1 9 1970
OREGON
STATE HIGHWAY COMMISSION

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.

bc Commission
Secretary of State - Please acknowledge receipt of this claim on the enclosed copy of this letter.

NOTED
C. W. HEAD

• FORMERLY DAVIS BAG COMPANY

McDOWELL BAG COMPANY

QUALITY USED BAGS ✱ BURLAP ✱ COTTON ✱ MULTIWALL PAPER ✱ TWINE
CORRUGATED CARTONS ✱ FIBRE DRUMS ✱ WIRETIES ✱ RATCHETS

80 S. E. MADISON STREET
Telephone 234-6624
PORTLAND, OREGON 97214

February 10, 1970

The Honorable Floyd Query
Secretary and ex officio clerk and auditor,
State Highway Department
State Highway Building
Salem, Oregon 97310

Gentlemen:

Please find enclosed our claim against the bond taken from Roy L. Houck Sons' Corporation.

This is to advise that a duplicate notice of claim has been sent to: The Honorable Clay Meyers, Secretary of State, State Capitol, Salem, Oregon.

Very truly yours,
McDOWELL BAG COMPANY

Arthur L. Fish

Arthur L. Fish

ALF/mas
ENCL.

NOTED
FLOYD QUERY

NOTED
C. W. HEAD

RECEIVED
FEB 12 1970
OREGON
STATE HIGHWAY COMMISSION

McDOWELL BAG COMPANY

• FORMERLY DAVIS BAG COMPANY

QUALITY USED BAGS ★ BURLAP ★ COTTON ★ MULTIWALL PAPER ★ TWINE
CORRUGATED CARTONS ★ FIBRE DRUMS ★ WIRE TIES ★ RATCHETS

80 S. E. MADISON STREET
Telephone 234-8624
PORTLAND, OREGON 97214

February 10, 1970

TO OREGON STATE HIGHWAY DEPARTMENT:

Notice is hereby given that the undersigned McDOWELL BAG COMPANY has a claim for BURLAP YARDAGE furnished by McDOWELL BAG COMPANY in the sum of NINTY THREE and 20/100 DOLLARS ($93.20) against the bond taken from Roy L. Houck Sons' Corporation, Principal, and the Aetna Casualty and Surety Company, surety, for the works of the Old Oregon Trail, Lime Section, State Highway Contract No. 7185.

McDOWELL BAG COMPANY
By

RECEIVED
FEB 12 1970
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
FEB [illegible] 1970

70N-7135 341
7145

Files

STATE OF OREGON
DEPARTMENT OF STATE
SALEM 97310

CLAY MYERS
SECRETARY OF STATE

GEORGE H. BELL
JACK F. THOMPSON
ASSISTANTS

[illegible] 3, [illegible]

COPY

McDowell [illegible] Company
[illegible] Madison Street
Portland, Oregon 97214

Attention: Mr. Arthur L. Fish

Dear Mr. Fish:

This is to acknowledge receipt of [illegible] for filing:

Brought by: [illegible] Company
Surety Company: Aetna Casualty and Surety Company
Principal: Roy L. Houck Sons' Corporation
Amount of Claim: $93.20
Job: State Highway Contract No. 7185.

NOTED ON CARD
2-17-70 eR

This has been filed as of the date of this letter and assigned file number 4466.

Very truly yours,

[illegible] Madden, Elections Manager
By

(Mrs.) Darhl L. Couper
Public Records Clerk

cc: State Highway Commission

NOTED
C. W. HEAD

RECEIVED
FEB 16 1970
OREGON
STATE HIGHWAY COMMISSION

Files –

RECEIVED
FEB 17 1970
FOR FILING

45.5

FILED
FEB 13
CLAY MYERS
SECRETARY OF STATE

OREGON STATE
HIGHWAY DIVISION

~~HIGHWAY BUILDING~~ • SALEM, OREGON • 97310 • Phone 364-2171

I-80N-7(25)341
7185

February 11, 1970

Roy & Owen's Tire Service
586 North Oregon Street
Ontario, Oregon 97914

Gentlemen:

This is to acknowledge receipt of your claim letter of February 9 and attached statement and invoice stating that Roy Houck & Son Construction owes you $53.85 for labor.

This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures, and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract which is given to assure completion of the contract and payment of all bills incurred. We will advise the surety and the agent of the receipt of your claim, and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

ORIGINAL SIGNED
FLOYD QUERY

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

RECEIVED
FEB 16 1970
OREGON
STATE HIGHWAY COMMISSION

cc: The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation
Commission
Hon. Clay Myers - Please acknowledge receipt of this claim on the enclosed copy of this letter.

NOTED ON CARD
2-16-70 CR

NOTED
C. W. M

GENERAL TIRE

ROY & OWEN'S TIRE SERVICE
586 North Oregon St. • Ontario, Oregon
Phone 889-8432

February 9, 1970

Oregon State Highway Department
℅ Mr. Floyd Query Secretary
State Highway Building
Salem, Oregon 97301

Dear Sir:

Enclosed is the statement and invoice for Roy Houck & Son Construction. We would appreciate if you will please help us collect on this bill. We have sent statement to them for last few months with no reply.

Please refer to Lime Section Contract # 7185.

Thank you very much.

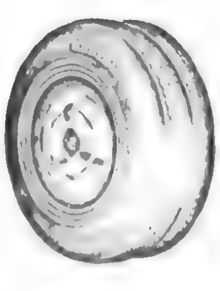
Sincerely,

Marjorie Matsumoto

RE[illegible]
[illegible]
STATE HIGHWAY [illegible]

NOTED
FLOYD QUERY

AMERICA'S TOP QUALITY TIRE... GOES A LONG WAY TO MAKE FRIENDS...



ROY & OWEN'S TIRE SERVICE

BAKER, OREGON
10th & CHURCH
PH 523-4213
97814

ONTARIO, OREGON
N. OREGON & 6th
PH 889-8432
97914

WEISER, IDAHO
109 W. MAIN
PH. 549-2494
83672

ROY HOUCK & SON CONSTRUCTION
RT. 1
Huntington, Oregon 97907

INTEREST CHARGED ON PAST DUE ACCOUNTS

Date	Reference No	Charge	Credit	Balance
10 15-69	[illegible]	53.85		53.85

Thank You

PAY ONLY LAST AMOUNT IN THIS COLUMN

ROY & OWEN'S TIRE SERVICE, INC.

ONTARIO, OREGON N. OREGON & 6TH 889-8432	BAKER, OREGON 10TH & CHURCH 523-4213	WEISER, IDAHO 109 W. MAIN 549-2494	58797

DATE 12-18-69

NAME Roy Houck & Son Const

Rt 1 Huntington, Oregon

SOLD BY	CASH	C.O.D.	CHARGE	ON ACCT.	MDSE. RET.	PAID OUT
[illegible]			✓			

QUAN.	DESCRIPTION		AMOUNT
2	[illegible] Labor		
	2 man Truck @	15.00	30.00
109	Miles @		16.35
			46.35
1	[illegible] Tractor Tube		12.12
1	Flap		1.00
			53.85
	(2 Case Backhoe Tire Changed)		
	(1 [illegible] Tire		

THIS INVOICE CONSTITUTES A CONDITIONAL SALES CONTRACT WITH FULL TITLE OF MERCHANDISE RESTING WITH ROY & OWEN'S TIRE SERVICE UNTIL PAID IN FULL BY THE PURCHASER OR HIS AGENT. PURCHASER AGREES TO PAY ANY AND ALL COLLECTION COSTS IF ACCOUNT BECOMES DELINQUENT. TERMS NET 30 DAYS. ½ PER CENT SERVICE CHARGE ON ALL PAST DUE ACCOUNTS.

CUSTOMER'S ORDER NO.

RECEIVED
REC'D BY FEB 1 6 1970
OREGON
STATE HIGHWAY COMMISSION

MOORE BUSINESS FORMS, INC.

C

RECEIVED
FEB 10 1970

FOR FILING

I-80N-7(25)341
7185

February 10, 1970

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
Post Office Box 300
Salem, Oregon 97308

Dear Sir:

Re: Lime Section, Old Oregon Trail Highway
Contract No. 7185, Project No. I-80N-7(25)341

The contractor on this project has requested 69 calendar workdays' time extension. The request is based on work added to the contract (Price Agreement No. 7, Embankment Foundation Excavation, and Price Agreement No. 5, Slide Removal), increases in contract quantities (excavation at "railroad cut" at Station 665 and 17 acres added seeding and mulching) and a delay in relocation of railroad facilities.

Excavation of unsuitable material in the embankment area at Bent 1 of the Lime Overcrossing structure was added by Price Agreement No. 7. This work was performed between April 2 and April 11, 1969. No work could be commenced on Bent 1 of the structure until the fill was in following the foundation work. An extension of 10 calendar workdays is justified.

Slide correction work was performed under an Extra Work Order and Price Agreement No. 5 between March and July of 1969. Approximately 80,000 extra cubic yards of material was removed by front-end loader, but this work was performed concurrently with other contract work and does not appear to have delayed the overall project. The structure work, which is still under way, has been the critical phase.

The plans indicated a 10,868 cubic yard excavation bracket for the "railroad cut". This is in the vicinity of the southerly end of the Lime Overcrossing structure or on the opposite end of the structure from Bent 1 discussed above. The excavation actually removed from the so-called "railroad cut" amounted to more than 96,000 cubic yards. It had to be wedged out in either direction much further and higher than the plan quantity had anticipated. This material was removed as a separate operation after the main line roadway cut above had been brought down. This cut had to be completed before construction of Bents 4 and 5 of the overcrossing structure could progress as the footings were in the bottom of the cut. Ordinarily, such an overrun would be expected to have a delaying effect; however, as yet, we cannot confirm that this really caused any delay to the structure. The excavation was apparently completed by May 29, 1969, but the Bent 5 footings were not started until June 17, almost three weeks later. We therefore cannot recommend any time extension on this reason now, but the contractor may make another request with some more convincing argument which would merit our reconsideration later.

The seeding and mulching areas have been increased by approximately 17 acres (35 percent) in order to prevent erosion of excess materials wasted on the job. This extra work will be a late item (the total bid item is 63 percent done now) and an extension of 3 calendar workdays is justified based on the actual production rate involved.

At the pre-construction conference, the Union Pacific Railroad had indicated that work on relocating their signal and communication facilities would be started by December 1, 1968. The contractor's schedule also noted that railroad items were critical to the overall progress. Due to storm conditions in the Northwest which required railroad crews assigned to this work, the railroad's work was not started until December 17, 1968. The railroad facilities were out of conflict and the temporary haul road crossing was available February 3, 1969. This 16-day delay by the railroad held up the movement of excavation in both the areas discussed above (from the cut on Bent 5 side to the fill on Bent 1 side) and thereby delayed subsequent work on the overcrossing. An extension of 16 calendar workdays is justified.

Based on the reasons listed above, we ask your concurrence in a 29-calendar workday extension.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

F. B. Klaboe
Assistant State Highway Engineer

cc: Forrest Cooper
R. L. Porter
Tom Edwards
V. E. Skoog
F. D. Morgan
H. S. Coulter

JAB:fw srb

Files

4460

RECEIVED
FEB 17 1970
PO

FILED
11 1970
MYERS

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

1185

February 9, 1970

Portland Wire & Iron Works
4644 S.E. 17th Avenue
Portland, Oregon 97202

Gentlemen:

This is to acknowledge receipt of your letter of February 3 and attached invoices stating that Stach Constr. Company owes you a balance of $15,549.52 for material. From the description given in your letter, this appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, Oregon 97301, furnished the performance bond on this contract. We will advise them of the receipt of your claim and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

NOTED ON CARD
2-16-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

RECEIVED
FEB 16 1970
OREGON
STATE HIGHWAY COMMISSION

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.

bc Commission
Secretary of State - Please acknowledge receipt of this claim on the enclosed copy of this letter. 2/13

NOTED
C. W. HEAD

FABRICATION AND ERECTION OF STEEL AND WIRE • TWX PD 440 • 234-9731

PORTLAND WIRE & IRON WORKS

4644 S. E. 17TH AVENUE • PORTLAND, OREGON 97202

ESTABLISHED [illegible]

February 3, 1970

Secretary of State
State of Oregon
Salem, Oregon - 97301

Ref: Contract #7185; Lime Section
Old Oreg. Trail Hiway; Gen Contr.
Roy L. Houck & Sons Corp. & Stach
Constr. Co. Sub Contr.

Dear Sir:

We hereby make claim for material furnished on the above project. See attached invoices in the amount of $18,049.52. We have received a partial payment of $2,500.00 leaving a balance of $15,549.52, which we make claim for at this time.

We were material suppliers to Stach Construction Company on the above project. There bond being handled by the Oakridge Insurance Co. P.O. Box 406, Oakridge, Oregon-97463 - The general contractor, Roy L. Houck and Sons Corp. bond being handled by Aetna Casualty & Surety Co. 1201 SW 12th Avenue, Portland, Oregon-97205.

Very Truly yours

R L Chewning

R.L. Chewning
Credit Manager

5 Incl
Invoices

PORTLAND WIRE & IRON WORKS
STEEL AND WIRE FABRICATORS

4644 S.E. 17TH AVENUE ☎ 234-9731
P.O. BOX 02175
PORTLAND, OREGON 97202

CUSTOMER NO. - 71525 36 — 0

DATE 1-10-70

OUR JOB NO. 21 C-3542 -C

YOUR P. O. NO. 520

SOLD TO [illegible] Construction Company
P. O. Box 730
Grants Pass, Oregon 97526

JOB REF.
Lime Section Old Oregon Trail Hwy.
[illegible], Oregon
Baker County

TERMS: Net 10TH OF FOLLOWING MONTH

[illegible]

Fabricate & galvanize [illegible] 6" steel pipe	$1,105.00

RECEIVED [illegible] 1970

PLEASE PAY FROM THIS INVOICE - NO STATEMENT WILL BE RENDERED

PORTLAND WIRE & IRON WORKS
STEEL AND WIRE FABRICATORS
4644 S.E. 17TH AVENUE @ 234-9731
P.O. BOX 02175
PORTLAND, OREGON 97202

CUSTOMER NO. 71325 36

DATE 9-15-69

OUR JOB NO. 01 X-5055/C-3042

YOUR P. O. NO.

SOLD TO

Stach Construction Co.
P. O. Box 780
Grants Pass, Oregon 97526

JOB REF.
Lime Section - Old Oregon Trail
Baker County, Oregon

TERMS: Net **10TH OF FOLLOWING MONTH**

1 - C-621 [illegible]	$40.50
Prepaid freight	5.02
	$45.52

[illegible]
SEP 22 19

PORTLAND WIRE & IRON WORKS
STEEL AND WIRE FABRICATORS
4644 S.E. 17TH AVENUE ☎ 234-9731
P.O. BOX 02175
PORTLAND, OREGON 97202

CUSTOMER NO. 71325 36
DATE 7-14-69
OUR JOB NO. 01 C-3642 - B
YOUR P. O. NO. 520

SOLD TO
Stach Construction Company
P. O. Box 169
Huntington, Oregon 97907

JOB REF.
Lime Section Old Oregon Trail Hwy.
Ontario, Oregon
Baker County

TERMS: Net 10TH OF FOLLOWING MONTH

Item No. 69

1020'-0"	Type "C" Aluminum Metal Parapet Railing	@ $5.10/lf	$5,202.00

RECEIVED
FEB [illegible] 1970
OREGON
STATE HIGHWAY COMMISSION

I B M
JUL 16 1969

PORTLAND WIRE & IRON WORKS
STEEL AND WIRE FABRICATORS
4644 S.E. 17TH AVENUE ☎ 234-9731
P.O. BOX 02175
PORTLAND, OREGON 97202

CUSTOMER NO. 71525 35

DATE 6-30-69

OUR JOB NO. 01 C-4022

YOUR P. O. NO.

SOLD TO
[illegible] Construction Co.
P. O. Box 790
Grants Pass, Oregon 97526

JOB REF.
[illegible] Job
Old Oregon [illegible] Highway
[illegible] County, Oregon

TERMS: [illegible] 10TH OF FOLLOWING MONTH

50	1/2" x 6" [illegible] Hex Head Bolts with 2 Hex Nuts Each	$37.50

[illegible]
JUL 3 1969

PORTLAND WIRE & IRON WORKS
STEEL AND WIRE FABRICATORS

4644 S.E. 17TH AVENUE @ 234-0731
P.O. BOX 02175
PORTLAND, OREGON 97202

CUSTOMER NO. 71325 S6
DATE 6-25-69
OUR JOB NO. 01 G-3642 - A
YOUR P. O. NO. 520

SOLD TO
Steck Construction Company
P. O. Box 730
Grants Pass, Oregon 97526

JOB REF.
Lime Section Old Oregon Trail Hwy.
Ontario, Oregon
Baker County

TERMS: Net 10TH OF FOLLOWING MONTH

Item No. 44			
3 - Type "G-2M" Inlet grates & frames	@ $44.50 ea.	$	133.50
Item No. 88 Galv. Type "B" deck drains w/pipe extension Armored corner angles Rocker assemblies Parapet joint dowels Dowel caps			11,546.00
			$11,679.50

L.B.M.

JUL 3 1969

Files

4461

FILED
FEB 11 1970
CLAY MYERS
SECRETARY OF STATE

RECEIVED
FEB 17 1970
FOR

OREGON STATE
HIGHWAY DIVISION

I-8-N-7(25)341

711

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

February 9, 1970

Traylor Construction Company
2711 So. Curtis Road
Boise, Idaho 83705

Gentlemen:

This is in reply to your statement advising us that Roy L. Houck Sons' owes you for equipment rental and material in the amount of $190.20. From the description given in your statement, this appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem 97301, furnished the performance bond on this contract, which is given to assure completion of the contract and payment of all bills incurred in it. We will advise the surety and the agent of the receipt of your claim and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

NOTED ON CARD
2-16-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.

RECEIVED
FEB 16 1970
OREGON
STATE HIGHWAY COMMISSION

bc Commission
Secretary of State - Please acknowledge receipt of this claim on the enclosed copy of this letter.

NOTED
C. W. HEAD

Statement
~~INVOICE~~ **Nº 847**

TRAYLOR CONSTRUCTION CO.

Trenching & Pipe Laying

2711 SO. CURTIS ROAD ★ PHONE 375-6212 ★ BOISE, IDAHO 83705

DATE 2-4 1970

State Highway Commission
Salem, Oregon

DATE			
	a/c of Roy L. [illegible] & Sons Inc.		
	Route 1		
	Huntington, Ore.		
11-5-69	9 hrs backhoe [illegible] @ 17.50	157	50
	1-1" adapter for poly pipe		
	& 1" clamps	7	50
	63' of 1" black pipe @ .40	25	20
		190	20
	I have not been able	[illegible]	
	to get payment on this		
	account. Could you help?		
	Thanks.		
	O. B. Traylor		

RECEIVED
FEB 17 1970
FOR FILING

Files

4462

FILED
FEB 11
CLAY MYERS
STATE

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

7185

February 9, 1970

Burke Concrete Accessories, Inc.
5750 N.E. Hassalo
Portland, Oregon 97213

Gentlemen:

This is to acknowledge receipt of your Notice of Claim stating that Roy L. Houck Sons' Corporation owes you for miscellaneous materials in the amount of $8,527.47. This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem 97301, furnished the performance bond on this contract. We will advise them of the receipt of your claim and we will also forward it to the Secretary of State for filing.

Please advise this office when your claim has been paid.

Very truly yours,

NOTED ON CARD
2-16-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

RECEIVED
FEB 16 1970
OREGON
STATE HIGHWAY COMMISSION

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corp.

bc Commission
✓ Secretary of State - Please acknowledge receipt of this claim on the enclosed copy of this letter.

NOTED
C. W. HEAD

BURKE CONCRETE ACCESSORIES, INC.

February 2, 1970

NOTICE TO THE STATE OF OREGON

TO THE STATE OF OREGON AND ITS STATE HIGHWAY COMMISSION:

NOTICE IS HEREBY GIVEN that the undersigned, Burke Concrete Accessories, Inc., has a claim for Wall Ties, Forming Material, Poly Styboard, Expansion Joint, Paper Tubing, Curing Compounds, Compression Seal and other miscellaneous accessories, which were ordered by Stach Construction Co. and furnished by Burke Concrete Accessories, Inc., in the sum of $8,627.47 against the bond taken from the St. Paul Insurance Company for the work on Oregon State Contract #7185, Job Name, Old Oregon Trail - Lime Section.

It is requested that this notice be filed.

BURKE CONCRETE ACCESSORIES, INC.

By: ______________________

5750 N. E. HASSALO · P. O. BOX 2764 · PORTLAND, OREGON 97208 · 503-287-4151

BURKE CONCRETE ACCESSORIES, INC.

February 2, 1970

NOTICE TO THE STATE OF OREGON

TO THE STATE OF OREGON AND ITS STATE HIGHWAY COMMISSION:

NOTICE IS HEREBY GIVEN that the undersigned, Burke Concrete Accessories, Inc., has a claim for Wall Ties, Forming Material, Poly Styboard, Expansion Joint, Paper Tubing, Curing Compounds, Compression Seal and other miscellaneous accessories, which were ordered by Stach Construction Co. and furnished by Burke Concrete Accessories, Inc., in the sum of $8,627.47 against the bond taken from the St. Paul Insurance Company for the work on Oragon State Contract #7185, Job Name, Old Oregon Trail - Lime Section.

It is requested that this notice be filed.

BURKE CONCRETE ACCESSORIES, INC.

By: ____________________

5750 N. E. HASSALO • P. O. BOX 2[illegible]64 • PORTLAND, OREGON 97208 • 503-287-4151

RECEIVED
FEB 26 1970
FOR FILING

I80N-7(25)341

7185

February 5, 1970

The Aetna Casualty & Surety Company
1201 S. W. 12th
Portland, Oregon 97205

Attention: Mr. William George

Gentlemen:

We have delivered merchandise to Stach Construction Company, subcontracting for Houck Construction, on Oregon State Contract No. 7185 for the Lime Section of the Old Oregon Trail.

This merchandise, totaling $9,454.30 in value, was delivered during the month of July, 1969.

Please advise as to how a claim may be filed to secure payment.

Yours truly,

ALASKA STEEL CO.

Lance L. Lyon
Credit Department

LLL/hs

cc: Oregon State Highway Dept.
Highway Building
Salem, Oregon 97310

Houck Construction Company
P. O. Box 671
Salem, Oregon

NOTED
C. W. HEAD

RECEIVED
FEB 6 1970
OREGON
STATE HIGHWAY COMMISSION

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

September 3, 1969

Rudolph's Saw & Tool Sharpening
1940 Oak Street
Baker, Oregon 97814

Gentlemen:

This will acknowledge receipt of your claim letter of August 25 stating that Stach Construction Company owes you for saw-filing services in the amount of $204.05. From the description given, it appears that the contract to which you refer is our Contract No. 7185 awarded to Roy L. Houck Sons' Corporation for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The surety on this project is The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street S.E., Salem. We will advise them that your letter has been received and we will also send it to the Secretary of State for filing.

When your claim has been paid, please let us know so that we can clear our records.

Very truly yours,

Floyd Query

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CW ✓

NOTED
FLOYD QUERY

Mr. Floyd Query.
In regard to the above Claim. I finley got paid but it took a long time. So you can clear your records. and Thanks

Sincerely
R. T. Rudolph

NOTED
C. W. HEAD

RECEIVED
FEB 2 - 1
FOR FIL

445

FILED
JAN 29 1970
CLAY MYERS
SECRETARY OF STATE

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING ∘ SALEM, OREGON ∘ 97310 ∘ Phone 364-2171

January 28, 1970

Northwest Gas & Oil
318 N. Oregon Street
Ontario, Oregon 97914

Attention: Gil Holderman

Gentlemen:

This is to acknowledge receipt of your claim letter of January 27 advising us that Stach Construction Company owes Northwest Gas & Oil $279.23 and the Superior Products $501.97. You mentioned that they made purchases of deisel and gasoline at your station at Hines, and purchases of gasoline at Ontario which you assumed were made in connection with the overpass at Lime in Baker County.

Your claim appears to be in reference to the following contracts:

> Contract No. 7194, Stach Construction Company, Inc., prime contractors, for structures of the Malheur River (Harper) and Bully Cr. (Westfall) Bridges on FAS 23-105 in Malheur County. Surety: St. Paul Fire & Marine Insurance Company. Agent: Oakridge Insurance Agency, Inc.

NOTED ON CARD
1-30-70 CR

> Contract No. 7185, Roy L. Houck Sons' Corp., prime contractors, for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County. Surety: The Aetna Casualty & Surety Company. Agent: Updegraff Insurance, Inc.

NOTED ON CARD
1-30-70 CR

We will advise the sureties and the agents of the receipt of your claim letters of January 27, 1970, and November 7, 1969. We are also forwarding them to the Secretary of State for filing. This filing with the Secretary of State will protect your claim under the bond.

Please advise this office when your claim has been paid so that we may clear our records.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc St. Paul Fire & Marine Ins. Co.
Oakridge Insurance Agency, Inc.
Stach Construction Company, Inc.
The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation

bc Commission
Secretary of State

NOTED
C. W. HEAD

RECEIVED
JAN [illegible] 1970
STATE HIGHWAY COMMISSION

RECEIVED
JAN 28 1970
FOR FILING

Claim # 4451

FILED
CLAY MYERS

Files

OREGON STATE
HIGHWAY DIVISION

[illegible]-11
7185

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

January 22, 1970

Western Equipment Company
Box 400
La Grande, Oregon 97850

Gentlemen:

This is to acknowledge receipt of your letter of January 20 and attached copy of your claim letter dated January 20, 1970, to The Aetna Casualty & Surety Company advising them that Roy L. Houck Sons' Corporation owes you for labor and supplies in the amount of $911.33 plus interest.

This appears to be in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please notify this office when your claim has been satisfied.

Very truly yours,

NOTED ON CARD
1-26-70 SR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

RECEIVED

cc: The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation
Commission
Hon. Clay Myers - Please acknowledge receipt of this claim on the enclosed copy of this letter.

NOTED
C. W. HEAD

YOUR
CAT®
DEALER

Cat, Caterpillar and Traxcavator are registered trademarks of Caterpillar Tractor Co.

WESTERN EQUIPMENT COMPANY

GENERAL OFFICES:
4009 Fairview Ave.
Mailing Address Box 7487
Boise, Idaho 83707
Phone 343-5401
Area Code 208

2405 Hwy. 30 W.
Mailing Address Box 4640
Pocatello, Idaho 83201
Phone 232-2640
Area Code 208

1805 Adams Ave.
Mailing Address Box 400
LaGrande, Oregon 97850
Phone 963-3101
Area Code 503

323 Canyon City Blvd.
Mailing Address Box 377
John Day, Oregon 97845
Phone 575-1301
Area Code 503

La Grande, Oregon
January 20, 1970

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Oregon State Highway Commission
State Highway Building
Salem, Oregon

Re: Roy L. Houck Sons' Corporation
Contract #7185
Oregon State Highway Department
Old Oregon Trail - Lime Section
Baker County, Oregon

Gentlemen:

We enclose a copy of our claim, as that claim now exists against Roy L. Houck Sons' Corporation, prime contractor on the above mentioned contract. This claim is made in accordance with Section 270b-(a) of the Miller Act.

Yours very truly,

WESTERN EQUIPMENT COMPANY

Jean E. Walker

Jean E. Walker (Mrs.)
Credit Department

JEW/lb
Enc.

Cc ✓

NOTED
FLOYD QUERY

RECEIVED
JAN 21 1970
OREGON
STATE HIGHWAY COMMISSION

CC: OREGON STATE HIGHWAY COMMISSION ←
ROY L. HOUCK SONS' CORPORATION
BERT ROBERTS - BOISE
TED NUGENT

La Grande, Oregon
January 20, 1970

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Aetna Casualty & Surety Co.
1201 S. W. 12th
Portland, Oregon 97200

Re: Roy L. Houck Sons' Corporation
Contract #7185
Oregon State Highway Department
Old Oregon Trail - Lime Section
Baker, County, Oregon

Gentlemen:

Pursuant to Section 270b-(a), of the Miller Act, we hereby present our claim as that claim now exists against Roy L. Houck Sons' Corporation, prime contractor on the above mentioned contract. Our claim is for the performance of labor and for the furnishing of supplies plus interest on the past due balances as they become past due. The total amount due and owing amounts to $911.33 and we hereby make demand for payment thereof plus interest on any balance now past due.

We reserve the right, should it become necessary, to sue on the payment bond you have written as surety on the above named contractor, for the amount specified herein, or the balance thereof, unpaid at the time of institution of said suit, and to prosecute said action to final execution and judgement for the sums due, plus interest and reasonable attorney's fees thereon.

Yours very truly,

WESTERN EQUIPMENT COMPANY

Jean E. Walker

Jean E. Walker (Mrs.)
Credit Department

JEW/lb

RECEIVED
JAN 21 1970
FOR FILING

I-80N-7(35)541
7185

January 20, 1970

Oregon Portland Cement Company
111 S. E. Madison
Portland, Oregon 97214

Attention: Emery N. Sundberg
Secretary

Gentlemen:

This is to acknowledge receipt of your letter of January 13 and attached Notice of Claim which states that Roy L. Houck Sons' Corporation, principal, owes you for bulk cement in the amount of $143,760.50.

The Notice states this is in connection with the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty and Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract. We will advise the surety and the agent of the receipt of this claim.

The Secretary of State's Office has informed us that they have received a copy of your claim, which was filed in their office on January 19, 1970, and was assigned File No. 4448.

Please advise this office when your claim has been satisfied.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc Roy L. Houck Sons' Corporation
The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Secretary of State
Commissioners

NOTED ON CARD
1-20-70

CWH:fkn

OREGON PORTLAND CEMENT COMPANY
INCORPORATED 1915
111 S.E. MADISON
PORTLAND, OREGON 97214

January 13, 1970

The Honorable Floyd Query
Secretary and ex officio clerk and auditor
State Highway Department
State Highway Building
Salem, Oregon 97310

Dear Sir:

Enclosed is notice of claim on State Highway Contract No. 7185.

A duplicate original of this claim is being sent to The Honorable Clay Meyers, Secretary of State.

OREGON PORTLAND CEMENT COMPANY

Emery N. Sundberg
Secretary

Filed with Sec. of State
1-19-70
File No. 3445

NOTED
C. W. HEAD

RECEIVED
JAN 19 1970
OREGON
STATE HIGHWAY COMMISSION

NOTED
FLOYD QUERY

OREGON PORTLAND CEMENT COMPANY
INCORPORATED 1915
111 S.E. MADISON
PORTLAND, OREGON 97214

January 13, 1970

The Honorable Floyd Query
Secretary and ex officio clerk and auditor
State Highway Department
State Highway Building
Salem, Oregon 97310

To Oregon State Highway Department:

Notice is hereby given that the undersigned Oregon Portland Cement Company has a claim for bulk cement furnished by Oregon Portland Cement Company in the sum of One Hundred Forty-three Thousand Seven Hundred Sixty and 50/100 Dollars ($143,760.50) against the bond taken from Roy L. Houck Sons' Corporation, Principal, and The Aetna Casualty and Surety Company, surety, for the works of the Old Oregon Trail, Lime Section, State Highway Contract No. 7185.

OREGON PORTLAND CEMENT COMPANY

Emery N. Sundberg

Emery N. Sundberg
Secretary

RECEIVED
JAN 28 1970
FOR FILI

Claim # 4449

FILED
JAN 2 1 1970
CLAY MYERS

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

CN-7185 1341

1175

January 20, 1970

Valley Radiator
805 Grandy
La Grande, Oregon 97850

Attention: Maurice Truax
Owner

Gentlemen:

This is in reply to your letter of January 15 advising us that Roy L. Houck Sons' Corporation owes you $236.

You state this is in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures, and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty and Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract which is given to assure completion of the contract and payment of all bills incurred in it. We will advise them of the receipt of your claim and we will also forward it to the Secretary of State for filing.

Please advise this office when your claim has been paid.

Very truly yours,

ORIGINAL SIGNED

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

NOTED ON CARD
1-26-70 CR

cc Roy L. Houck Sons' Corp.
The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.

Hon. Clay Myers - Please acknowledge receipt of the attached claim on the enclosed copy of this letter.

RECEIVED
JAN 1 1970
OREGON
STATE HIGHWAY COMMISSION

NOTED
C. W. HEAD

Jan. 15, 1970
La Grande, Oregon

Floyd Query
Sec. State Highway Comm.
Salem, Oregon 97310

Dear Sir:

I am writing in regard to Roy L. Houck Son's Corp. I did two jobs for them, one was on Aug. 22, 1969 # 6864-3890 for 216.00 and the outer one was on Nov. 14, 1969 # 6364-38828 for 20.00 . As of yet I have not received payment.

There contract number is 7185 Old Oregon Trail - Lime Sect. and the Bonding Co. is Aetna Casualty & Security, 1201 S. W. 12 th. Portland, Oregon.

We would like to receive payment without legal process.

Any help you can give me in this matrer would be greatly appreciated.

NOTED
FLOYD QUERY

Valley Radiator
805 Grandy
La Grande, Oregon 97850
Maurice Truax (owner)

Maurice Truax

RECEIVED
JAN 16 [illegible]
STATE HIGHWAY COMMISSION

NOTED
C. W. HEAD

Files

RECEIVED
JAN 28 1970

Claim # 4450

FILED
JAN 21 1970
CLAY MYERS
SECRETARY OF STATE

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

I-80N-7([illegible])-41

114

January 20, 1970

Benson's Glass and Paint, Inc.
P. O. Box 248
Ontario, Oregon 97914

Attention: G. E. Brittingham
President

Gentlemen:

This is to acknowledge receipt of your claim letter of January 13 with attached invoices and statement which states that Roy L. Houck Sons' Corporation owes you $189.44 for purchases made during the months from July through September.

This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7165 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty and Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract which is given to assure completion of the contract and payment of all bills incurred in it. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please advise this office when your claim has been paid.

Very truly yours,

ORIGINAL SIGNED
FLOYD QUERY

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

NOTED ON CARD
1-26-70 CR

RECEIVED
JAN 23 1970
OREGON
STATE HIGHWAY COMMISSION

cc Roy L. Houck Sons' Corp.
The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Hon. Clay Myers - Please acknowledge receipt of the attached claim on the enclosed copy of this letter.

NOTED
C. W. HEAD

Auto Glass *Window Glass* *Paints* *Furniture Tops* *Mirrors Made to Order*

BENSON'S Glass & Paint, Inc.

510 East Idaho Ave. — P. O. Box 248
Phone (Area 503) 889-8604
ONTARIO, OREGON 97914

January 13, 1970

Mr. Floyd Query
Secretary Highway Commission
State Highway Bldg.
Salem, Oregon 97310

Dear Mr. Query:

We have not received payment from the Roy L. Houck & Sons Construction Co. for the amount of purchases they made from us during the months from July thru Sept. in the amount of $189.44. We wish to establish a claim against their contract. We have contacted them several times with no results. Enclosed is copies of Invoices and a statement.

Any help you can give us to get this account settled would be greatly appreciated.

Sincerely,

G.E. Brittingham

G.E. Brittingham
President
BENSON'S GLASS & PAINT INC.

GEB/lw

NOTED
[illegible]

NOTED
FLOYD QUERY

RECEIVED
[illegible]

Window Glass • Auto Glass • Mirrors • Plate Glass • Awnings 3 Copies

DENSON'S Glass & Paint, Inc.

LUMINALL PAINTS

P. O. Box 248 ONTARIO, OREGON 97914 Phone 889-[illegible]

ROY L. HOUCK & SONS CORP.
P.O. BOX 671
SALEM, OREGON 97309

Date	Ticket No.	Charges		Credits		Balance	
7.31.69	J2204 [illegible]-38537	31	67			31	67
8.11.69	J2507 [illegible]	129	27			160	94
9.3.69	J2210 [illegible]-3055	31	22			1[illegible]	16
9.22.69	J3996 [illegible]	9	28			189	44

This is an Electrically-Exact Copy
of Your Account With Us.

Please Pay Last Amount
in This Column. △

BENSON'S GLASS & PAINT, INC.

P.O. BOX 243 • 510 EAST IDAHO AVE • PH. 889-8604 • ONTARIO, OREGON 97914

SOLD TO: Roy L. Houck Svcs Corp.

DATE 7-31 19[illegible]

ADDRESS P.O. Box 671

Salem, Oregon

CUSTOMER'S ORDER NO. 6846-[illegible]

SOLD BY

CASH	CHARGE	C.O.D.	REC'D ON ACCOUNT	MDSE. RETD. CASH	MDSE. RETD. CREDIT	PAID OUT	OTHER
	✓						

QUANTITY	DESCRIPTION	UNIT PRICE	LIST	DISC.	NET TOTAL
1	29½" x 32½" clear safety sheet		29 53	30%	20 67
	[illegible] windshield frame		[illegible]		11 [illegible]
					31 [illegible]

J 2214

ALL CLAIMS & RETURNED GOODS MUST BE ACCOMPANIED BY THIS BILL. ACCOUNTS PAYABLE 10TH OF EACH MONTH. INTEREST CHARGED ON ALL PAST DUE ACCOUNTS

REC'D. IN GOOD CONDITION BY Jack B. Lemen

TOTAL→

BENSON'S GLASS & PAINT, INC.

P.O. BOX 248 • 510 EAST IDAHO AVE • PH. [illegible] • ONTARIO, OREGON 97914

DATE 8-11 19 69

SOLD TO: Ray Houck Const. Co.

CUSTOMER'S ORDER NO. 1846-38578

ADDRESS Po. Bx 671

Salem Oregon

SOLD BY

CASH	CHARGE	C.O.D.	REC'D. ON ACCOUNT	MDSE. RETD. CASH	MDSE. RETD. CREDIT	PAID OUT	OTHER
	✓						

QUANTITY	DESCRIPTION	UNIT PRICE	LIST	DISC.	NET TOTAL
1	21¾" x 35" [illegible]		25 55	30%	17 88
	Labor- [illegible]				4 25
1	16" x 2[illegible]" [illegible]		8 50	30%	5 95
1	22½ x 27 [illegible]		2 94	[illegible]	4 45
1	7" x 15½" [illegible] in [illegible]				3 25
1	15" x 18"				3 00
1	9" x 18"				7 00
1	12" x 2[illegible]" [illegible]			50%	5 39
	Labor- Install				3 60
3	12" x 3[illegible]"			30%	17 01
1	26" x 26"		17 40	–	12 18
1	30" x 34"		29 02	–	20 31
	Install above [illegible] in [illegible] frames				25 00

TOTAL → 129 27

J 2517

ALL CLAIMS & RETURNED GOODS MUST BE ACCOMPANIED BY THIS INVOICE

REC'D. IN GOOD CONDITION BY

BENSON'S GLASS & PAINT, INC.

P.O. BOX 248 • 510 EAST IDAHO AVE • PH. 889-2604 • ONTARIO, OREGON 97914

SOLD TO: Roy Houck Const. Co.

ADDRESS: P.O. Box 671

Salem, Oregon 97308

DATE 9-4 19 67

CUSTOMER'S ORDER NO. 6846-39185

SOLD BY

CASH	CHARGE	C.O.D.	REC'D. ON ACCOUNT	MDSE. RETD. CASH	MDSE. RETD. CREDIT	PAID OUT	OTHER
	✓						

QUANTITY	DESCRIPTION	UNIT PRICE	LIST	DISC.	NET TOTAL
1	20" x 28" Sober Double		14 50	30	10 15
1	16" x 24" " "		10 10	30	7 07
1	20" x 18" DSB [illegible]				4 00
					*21 22

J 3210

ALL CLAIMS & RETURNED GOODS MUST BE ACCOMPANIED BY THIS BILL. ACCOUNTS PAYABLE 10TH OF EACH MONTH. INTEREST

REC'D. IN GOOD CONDITION BY

TOTAL →

BENSON'S GLASS & PAINT, INC.

P.O. BOX 248 • 510 EAST IDAHO AVE • PH. [illegible]-3604 • ONTARIO, OREGON 97914

SOLD TO: Roy L Houck

DATE 9-22 1969

ADDRESS

CUSTOMER'S ORDER NO. 6846 38767

SOLD BY

CASH	CHARGE	C.O.D.	REC'D. ON ACCOUNT	MDSE. RETD. CASH	MDSE. RETD. CREDIT	PAID OUT	OTHER
	✓						

QUANTITY	DESCRIPTION	UNIT PRICE	LIST	DISC.	NET TOTAL
1	Lt 18x22 Cl Saf Shut 4136-T		10 40		7 28
	B.O. [illegible]				

J 3776

ALL CLAIMS & RETURNED GOODS MUST BE ACCOMPANIED BY THIS BILL. ACCOUNTS PAYABLE 10TH OF EACH MONTH. INTEREST

REC'D. IN GOOD CONDITION BY Lloyd L Hyde

TOTAL →

RECEIVED
JAN 14 1970
FOR FILING

I-80N-7(25)341
7185

January 12, 1970

Ferguson & Burdell
929 Logan Building
Seattle, Washington 98101

Gentlemen:

This is to acknowledge receipt of the Notice of Claim of your client, Tri-M Erectors, Inc., stating that they have a claim for labor and materials against Roy L. Houck Sons' Corporation in the amount of $22,739.10.

This appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County. The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, Oregon 97301, furnished the performance bond on this contract.

The Secretary of State's office has informed us that they have received this claim in today's mail and have assigned their file number 4446.

Please let us know when this claim has been satisfied.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:sj
cc The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation

bc Commission
Secretary of State
Attn: Darhl Couper
Public Records

noted on card
1-12-70 sj

NOTICE OF CLAIM
(Public Works)

TO: Secretary of State
State of Oregon
Salem, Oregon

AND TO: Secretary
Oregon State Highway Commission
Highway Building
Salem, Oregon

NOTICE IS HEREBY GIVEN that the undersigned, TRI-M ERECTORS, INC., a Washington corporation, has a claim for labor and materials in connection with its contract for the erection of reinforcing steel by Tri-M Erectors, Inc., a Washington corporation, in the sum of ($22,739.10) Twenty-Two Thousand, Seven Hundred Thirty Nine and 10/100 Dollars against the bond taken from Roy L. Houck Sons Corporation, as principal, and Aetna Casualty & Surety Company, as surety, for the work of Oregon State Highway Commission Project No. 7185, Lime Section, Old Oregon Trail Highway. **Dated this 9th day of January, 1970.**

TRI-M ERECTORS, INC., a Washington
corporation

By: James A. Gray
Pres.
(title)

22650 85th Place South
Kent, Washington 98031

NOTED
FLOYD QUERY

RECEIVED
JAN 1 [illegible] 1970
OREGON
STATE HIGHWAY COMMISSION

Cec ✓

RECEIVED
JAN 15 1970

I-80N-7(25)341
7148

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
January 9, 1970

SUBJECT: Roy L. Houck

To:

Memo to Files

On the morning of December 30, 1969, the following individuals met in Floyd Query's office: Roy L. Houck, Jr.; George Rohde; and Floyd Query.

I wasn't in Mr. Query's office, but being in the adjacent office with the door open, I could hear some of the conversation, particularly Mr. Houck's. I do not recall Mr. Houck's exact words, but the following are some of his comments:

> How can you hold up payments due on our contracts by just a telephone call from our surety?
>
> You are taking sides by forwarding checks to our surety.
>
> We have obligations to the Salem U. S. National Bank.
>
> We have been picking up our warrants for several years now direct from your Accounting Division. We would phone to see when the warrants were ready and then we would pick them up, which would save a little time instead of receiving them through the mail.

Mr. Houck did make a statement regarding the sale of their equipment, but I do not recall just how it was phrased.

C. W. Head
C. W. Head, Assistant Secretary

CWH:sj

cc Floyd Query

RECEIVED
JAN 6 1970

FOR FIL

[illegible]

714

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

-11 Salem, Oregon
January 6, 1970

SUBJECT: Roy L. Houck Sons' Corp.
Contract Nos. 7185, 7215, 7289

To: Mr. Floyd Query
Secretary

BUILDING

Enclosed for your records are copies of financing statements and a security agreement dated September 26, 1969, under which the U. S. National Bank of Oregon has advised us that it claims a security interest in amounts earned by the Houck Firm under the above contracts. Apparently the financing statements were filed on October 1, 1969, in the offices of the Marion County Clerk and the Secretary of State (a third statement was also filed in the State of Washington on October 2, 1969).

Copies of these documents were provided to me on January 5, 1970, by E. L. Crawford, Attorney representing U. S. National Bank. Mr. Crawford stated that his purpose in so doing was to place the Highway Commission on notice of the Bank's claim.

George Rohde, Chief Counsel

By Alan H. Johansen
Al Johansen, Staff Attorney

AJ:cr
Enclosures

s FINANCING STATEMENT is presented to filing officer for filing pursuant to the Uniform Commercial Code. | 3. Maturity Date: (if any)

Debtor(s): OY L. HOUCK SONS' CORPORATION Mailing Address(es): 158 Chemeketa NE. alem, Oregon	nited States National Bank of Oregon Ladd & Bush Salem Branch 302 State St Salem, Oregon	Filing Officer (Date, time, number and filing office): Oct 1 [illegible] 862296

This financing statement covers the following types (or items) of property. (If collateral is crops growing or to be grown, or goods which are or are to become fixtures, give description reasonably identifying the real estate.):

Accounts receivable on construction contracts commonly referred to as "Earned Estimates".

5A. Assignee of Secured Party(ies), if any:

5B. Address of Assignee from which security information obtainable:

eck ☒ if covered: ☒ Proceeds of Collateral are also covered. ☒ Products of Collateral are also covered. No. of additional sheets attached ☐

led with: ☒ SECRETARY OF STATE: ☐ RECORDER ☒ COUNTY CLERK OF Marion COUNTY:

rmination Statement—This statement of termination of financing is presented to a filing officer for filing pursuant to the Uniform Commercial Code. The Secured rty certifies that the Secured Party no longer claims a security interest under the financing statement bearing the file number shown above. (Fee $1.00).

ted: ...., 19........ By: ....
(Signature of Secured Party or Assignee of Record—Not valid until signed)

LING OFFICER COPY—ACKNOWLEDGMENT—Filing officer is requested to note file number, date and hour of filing on this copy and return it to the person ng, as an acknowledgment.

This form of financing statement is approved by the Secretary of State.

ANDARD FORM—UNIFORM COMMERCIAL CODE—FORM UCC-1

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s FINANCING STATEMENT is presented to filing officer for filing pursuant to the Uniform Commercial Code. | 3. Maturity Date: (if any)

Debtor(s): OY L. HOUCK SONS' CORPORATION Mailing Address(es): 158 Chemeketa N. E. Salem, Oregon	United States National Bank of Oregon Ladd & Bush-Salem Branch 302 State St Salem, Oregon	Filing Officer (Date, time, number and filing office): FILED MARION COUNTY OREGON FILE NO. G 4349 DATE OCT 1 - '69 - 9 00 AM HERMAN WM. LANKE MARION COUNTY RECORDER DEPUTY

This financing statement covers the following types (or items) of property. (If collateral is crops growing or to be grown, or goods which are or are to become fixtures, give description reasonably identifying the real estate.):

3 1'2

Accounts receivable on construction contracts commonly referred to as "Earned Estimates".

5A. Assignee of Secured Party(ies), if any:

5B. Address of Assignee from which security information obtainable:

eck ☒ if covered: ☒ Proceeds of Collateral are also covered. ☒ Products of Collateral are also covered. No. of additional sheets attached ☐

led with: ☒ SECRETARY OF STATE: ☐ RECORDER ☒ COUNTY CLERK OF Marion COUNTY:

rmination Statement—This statement of termination of financing is presented to a filing officer for filing pursuant to the Uniform Commercial Code. The Secured rty certifies that the Secured Party no longer claims a security interest under the financing statement bearing the file number shown above. (Fee $1.00).

ted: ...., 19........ By: ....
(Signature of Secured Party or Assignee of Record—Not valid until signed)

LING OFFICER COPY—ACKNOWLEDGMENT—Filing officer is requested to note file number, date and hour of filing on this copy and return it to the person ng, as an acknowledgment.

ANDARD FORM—UNIFORM COMMERCIAL CODE—FORM UCC-2

This FINANCING STATEMENT is presented to filing officer for filing pursuant to the Uniform Commercial Code.

No. of additional sheets presented:

3. Maturity date (if any):

1. Debtor(s): (last name first, and mailing address(es)

ROY L. HOUCK SONS' CORPORATION
1158 Chemeketa N. E.
Salem, Oregon

2. Secured Party(ies) and address(es):

UNITED STATES NATIONAL BANK
OF OREGON
Ladd & Bush-Salem Branch
302 State St
Salem, Oregon

4. FOR FILING OFFICER ONLY
(Date, time, number and filing office)

'68 OCT [illegible] 8:00

0075230

5. This Financing Statement covers the following types (or items) of property:
(Use this space for Real Property description if required.)

Accounts receivable on construction contracts commonly referred to as "Earned Estimates".

STATE OF
WASH

6. Assignee(s) of Secured Party(ies) and address(es)

509536

CHECK ☒ IF COVERED: ☒ Proceeds of collateral are also covered ☒ Products of collateral are also covered

Filed with:

☐ The collateral described herein is brought into this state already subject to a security interest in the state of

TERMINATION STATEMENT—This statement of termination of financing is presented to a filing officer for filing pursuant to the Uniform Commercial Code. The Secured Party certifies that the Secured Party no longer claims a security interest under the financing statement bearing the file number shown above.

Dated: ________________ 19____

BY: ________________
SIGNATURE(S) OF SECURED PARTY(IES)

3—FILING OFFICER—ACKNOWLEDGEMENT

WASHINGTON STATE UCC-1 FORM APPROVED BY A. LUDLOW KRAMER, SECRETARY OF STATE (4-67)

Ex 15e

LIMITED - SEE
SPECIAL PROVISIONS

URITY AGREEMENT COVERING ACCOU
CONTRACT RIGHTS AND CHATTEL PAPER
(Not for Use with Finance Companies)

Sept. 26, 1969
(Date)

1.0 ROY L. HOUCK SONS' CORPORATION
(Name)

1158 Chemeketa Street, N.E. (No. and Street) Salem (City) Marion (County) Oregon (State)

the debtor hereunder (hereinafter called "Borrower"), hereby grants to UNITED STATES NATIONAL BANK OF OREGON, the secured party hereunder (hereinafter called "Bank"), a security interest in all accounts, instruments, drafts, acceptances and other forms of receivables (including chattel paper), and all rights of the Borrower earned or to be earned under contracts to sell goods or render services, all of which are, or may be, identified by the terms of paragraph 6 below, and all of which now belong or hereafter will belong to Borrower for goods sold by it or for services rendered by it, together with all guaranties and securities therefor, all right, title and interest of Borrower in the merchandise which gave rise thereto, including the right of stoppage in transit, and in the proceeds of all of the foregoing. All of the foregoing is hereinafter called the "Collateral."

2.0 The security interest granted hereby is to secure payment and performance of liabilities and obligations of Borrower to Bank of every kind and description, direct or indirect, absolute or contingent, due or to become due, now existing or hereafter arising (all hereinafter called "Obligations").

Borrower hereby agrees as follows:

3.0 **Definitions.** As herein used:

3.10 "Qualified Account" means a right of Borrower to payment for goods sold or leased by it or for services rendered by it which conforms to the warranties set forth in paragraph 4.3 hereof and which is due and payable according to terms acceptable to Bank.

3.20 "Slow Account" is any Qualified Account with respect to which any of the following has occurred or is applicable:

3.21 all or a substantial part of the property giving rise to the Qualified Account is returned, rejected, repossessed, lost or damaged;

3.22 any dispute with the account debtor arises;

3.23 the Account becomes past due under the original terms thereof for such period as may from time to time be prescribed by the Bank.

3.24 death, dissolution, termination of existence, insolvency, business failure, appointment of a receiver for any part of the property of, assignment for the benefit of creditors by, or the filing of a petition in bankruptcy, or the commencement of any proceeding under any bankruptcy or insolvency laws by or against, the account debtor;

3.25 the account debtor does not meet credit standards acceptable to Bank.

The Bank shall have sole discretion as to whether a Qualified Account is or has become a Slow Account.

3.30 "Borrowing Base" means an amount equal to such percentage of the outstanding amount of Qualified Accounts exclusive of Slow Accounts as may be prescribed from time to time by the Bank.

4.0 **Warranties.** Borrower represents and warrants as follows:

4.1 If a corporation, Borrower is duly organized and existing under the laws of Oregon and is duly qualified and in good standing in every other State in which it is doing business.

4.2 If a corporation, the execution, delivery and performance hereof are within Borrower's corporate powers, have been duly authorized, are not in contravention of law or the terms of Borrower's charter, bylaws or other incorporation papers, or of any indenture, agreement or undertaking to which Borrower is a party or by which it is bound.

4.3 Any Qualified Account reported by Borrower to Bank will be a good and valid account representing an undisputed bona fide indebtedness of the account debtor to Borrower for merchandise theretofore shipped or delivered pursuant to or in connection with a contract of sale, or for services theretofore performed by Borrower to or for said account debtor. There are and will be no setoffs or counterclaims of any nature whatsoever against any Qualified Account. No agreement under which any deduction or discount may be claimed has been or will be made with the account debtor on any of the Qualified Accounts except as reflected in the identification of Collateral as set forth in paragraph 6 hereof. Borrower will be the lawful owner of all Qualified Accounts and will have good right to pledge, sell, assign and transfer the same and grant a security interest therein. None of the Collateral has been or will be pledged, sold, assigned or transferred to any other person than Bank or in any way encumbered except to Bank and Borrower will warrant and defend all Collateral against the claims and demands of all persons. No account reported by Borrower to Bank shall represent payment due under a consignment or a sale or return agreement.

4.4 In addition to that shown in the beginning of this agreement, Borrower has places of business only at the following locations:

Salem Marion Oregon
1158 Chemeketa Street, N.E.
(City) (County) (State)

(City) (County) (State)

(City) (County) (State)

(City) (County) (State)

4.5 If Borrower has an office in more than one State, the office where Borrower keeps its records concerning accounts, contracts, rights and chattel paper is 1158 Chemeketa Street, N.E.
(No. and Street)

Salem Marion Oregon,
(City) (County) (State)

or if left blank, is that shown at the beginning of this agreement.

4.6 Subject to any limitation stated therein or in connection therewith, all information furnished to Bank concerning Collateral and proceeds thereof or otherwise for the purpose of obtaining credit or an extension of credit is or will be at the time the same is furnished, accurate and correct in all material respects and complete insofar as completeness may be necessary to give Bank a true and accurate knowledge of the subject matter.

5.0 **Possible Loans.**

5.1 Insofar as Borrower may request and Bank may be willing in its discretion to make loans to Borrower, such loans will be evidenced by Borrower's promissory note, payable on such terms as Bank may accept.

5.2 Borrower understands that Bank will use the Borrowing Base as a limitation on loans. Borrower agrees that the outstanding principal balance of loans hereunder, together with interest due and unpaid thereon, will at no time exceed the Borrowing Base, and agrees that if at any time the loans do exceed the Borrowing Base, Borrower shall make payments in cash, on demand, in reduction of such interest and principal, in such amount as may be necessary to eliminate such excess.

6.0 **Identification and Delivery of Collateral.** The books and records of the Borrower pertaining to the Collateral and the Collateral itself, shall be marked and identified as required by the Bank.

6.1 The Borrower shall deliver to the Bank all original documents, instruments, and chattel paper described as "Collateral" in 1.0 hereof, and if any of the chattel paper subject hereto covers property which is covered by certificates of title, the Borrower shall also deliver all such certificates. In addition, the Borrowers shall also deliver either:

6.2 original and duplicate invoices representing sales and delivery of goods or services, together with evidence of delivery as may be requested by the Bank, all invoices to bear an assignment stamp in favor of the Bank in terms acceptable to the Bank; or

6.3 at the time of each borrowing, a completed and executed Borrower's Certificate-Accounts Receivable and/or Accounts Receivable Schedule, satisfactory in form to the Bank; and in addition the Borrower shall deliver monthly a completed and executed aged Schedule of Collateral satisfactory in form to the Bank.

6.4 Bank's failure to demand delivery of the writings described herein or Borrower's failure or refusal to deliver them shall in no way diminish Bank's security interest in the Collateral described in paragraph 1.0 hereof, it being the intention of the parties that the Bank shall have a security interest in all items of Collateral described in paragraph 1.0, both presently owned by Borrower or acquired hereafter, whether or not spcifically identified or listed.

7.0 **Places of Business; Inspection of Records; Insurance; Further Assurance.**

7.1 Borrower will promptly notify Bank in writing of any addition to, change in or discontinuance of its place(s) of business as shown at the beginning of this agreement and in paragraph 4.4 and the location of the office where it keeps its records as set forth in paragraph 4.5.

7.2 Borrower will at all reasonable times allow Bank by or through any of its representatives, attorneys or accountants, to examine and inspect and make extracts from Borrower's books and other records and to arrange for verification of Collateral, under reasonable procedures, directly with account debtors or by other methods. Borrower will furnish to Bank upon request additional statements of any Collateral, together with all notes or other papers evidencing the same and any guaranties, securities, or other documents and information relating thereto; and generally at all times will furnish to Bank such statements and information as it may reasonably request.

7.3 When so requested by Bank, Borrower will provide, at no expense to Bank, insurance satisfactory to Bank on all chattels which may be listed on any chattel paper subject to this agreement, and affix to the policies loss payable clauses satisfactory to Bank and provide proper evidence of such insurance to the Bank.

7.4 Borrower will at all times at the request of Bank, do, make, execute and deliver all such additional and further acts, things, deeds, assurances and instruments as Bank may require, to more completely vest in and assure to Bank its rights hereunder and in or to the Collateral and the proceeds thereof, and will pay the cost of any necessary filing.

8.0 **Collections; Notice of Assignment; Expense.**

8.1 Borrower shall make collections on the Collateral, hold the proceeds received from collections in trust for Bank and turn over such proceeds to Bank daily in the exact form in which they are received together with a collection report in form satisfactory to Bank. Cash proceeds (including checks) shall be deposited in an account in the Bank designated as Cash Collateral Account, Roy L. Houck Sons' Corporation, bearing Account Number 103-473, said account to be under the Bank's sole control. Bank in its discretion may apply any or all cash proceeds to the payment of Borrower's Obligations or may release such proceeds as it sees fit to Borrower.

8.2 Bank may at any time notify account debtors on any Collateral that the Collateral has been assigned to Bank and that proceeds thereof shall be paid to Bank. Upon request of Bank, Borrower will so notify such account debtors and will indicate on all billings to such account debtors that the accounts are payable to Bank. Any proceeds of accounts thereafter received by Borrower shall be turned over to Bank daily in the exact form in which they are received.

8.3 Bank shall have full power to collect, compromise, endorse, sell or otherwise deal with Collateral or proceeds thereof in its own name or that of Borrower; and shall have full power to endorse for the Borrower the certificates of title referred to in 6.1 and to sell or otherwise deal with the property represented thereby in its own name or that of Borrower.

9.0 **Financing Statements.**

9.1 At the request of Bank, Borrower will join with Bank in executing one or more Financing Statements pursuant to the Uniform Commercial Code in form satisfactory to Bank.

9.2 Without the written consent of Bank, Borrower will not allow any Financing Statement covering any Collateral, proceeds thereof or proceeds of any of Borrower's assets to be on file in any public office.

10.0 **Events of Default; Acceleration.** Any or all Obligations shall, at the option of Bank and notwithstanding any time or credit allowed by any instrument evidencing a liability, become immediately due and payable without notice or demand upon the occurrence of any of the following events of default;

10.1 default in the payment or performance of any obligation, covenant or liability contained or referred to herein or in any note secured hereby;

10.2 any warranty, representation or statement made or furnished to Bank by or on behalf of Borrower proves to have been false in any material respect when made or furnished;

10.3 any event which results in the acceleration of the maturity of the indebtedness of Borrower to others under any indenture, agreement or undertaking;

10.4 loss, theft, damage, destruction, sale or encumbrance to or of any of the Collateral, or the making of any levy, seizure or attachment thereof or thereon;

10.5 death, dissolution, termination of existence, insolvency, business failure, appointment of a receiver for any part of the property of, assignment for the benefit of creditors by, or the commencement of any proceeding under any bankruptcy or insolvency laws by or against, Borrower or any guarantor or surety for Borrower, or entry of any judgment against them, or failure of any guarantor or surety of Borrower to provide Bank with financial information promptly when requested.

11.0 **Rights and Remedies on Default.** Upon the occurrence of any such event of default, and any time thereafter, Bank shall have the rights and remedies of a secured party under the Uniform Commercial Code in addition to the rights and remedies provided herein or in any other writings executed by Borrower.

12.0 **Additional Security.** Regardless of the adequacy of any Collateral which the Bank may at any time hold hereunder, and regardless of the adequacy of any other collateral which the Bank may obtain at any of its offices from Borrower in connection with any other transactions, any deposits or other moneys due from Bank at any of its offices to Borrower shall constitute additional security for, and may be set off against, loans secured hereby even though said loans may not then be due. Any and all instruments, documents, policies and certificates of insurance, securities, goods, accounts receivable, choses in action, chattel paper, cash, property and the proceeds thereof (whether or not the same are Collateral or proceeds thereof hereunder) owned by Borrower or in which Borrower has an interest, which now or hereafter are at any time in possession or control of Bank at any of its offices or in transit by mail or carrier to or from Bank or in the possession of any third party acting in Bank's behalf without regard to whether Bank received the same in pledge, for safekeeping, as agent for collection or transmission or otherwise, or whether Bank has conditionally released the same, shall constitute additional security for Obligations and may be applied at any time to Obligations which are then due whether by acceleration or otherwise.

13.0 **General.** Bank shall not be deemed to have waived any of Bank's rights hereunder or under any other agreement, or writings signed by Borrower unless such waiver be in writing and signed by Bank. No delay or omission on the part of Bank in exercising any right shall operate as a waiver of such rights or any other right. A waiver on any one occasion shall not be construed as a bar to or waiver of any right or remedy on any future occasion. All Bank's rights and remedies, whether evidenced hereby or by any other writings shall be cumulative and may be exercised singularly or concurrently.

13.1 Any demand upon or notice to Borrower that Bank may elect to give shall be effective when deposited in the mails or delivered to a telegraph, wireless or radio company addressed to Borrower at the address shown at the beginning of this agreement, as modified by any notice given pursuant to paragraph 7.1. Demands or notices addressed to Borrower's address at which Bank customarily communicates with Borrower shall also be effective.

13.2 If at any time or times by assignment or otherwise Bank transfers any Obligations and Collateral, or other security therefor, such transfer shall carry with it Bank's powers and rights under this agreement with respect to the Obligations and Collateral or other security transferred and the transferee shall become vested with said powers and rights, whether or not they are specifically referred to in the transfer. If and to the extent that Bank retains any other Obligation or Collateral or other security, Bank will continue to have the rights and powers herein set forth with respect thereto.

13.3 Borrower shall pay to Bank on demand, together with interest at the highest rate allowed by law, any and all expenses, including legal expenses and reasonable attorneys' fees, reasonably incurred or expended by Bank in the collection or attempted collection of Collateral and in protecting and enforcing the Obligations and other rights of Bank hereunder.

13.4 Whenever there is no outstanding Obligation and no commitment on the part of Bank under any agreement which might give rise to an Obligation, Borrower may terminate this agreement upon written notice to Bank. Prior to such termination, this shall be a continuing agreement in every respect.

13.5 This agreement and all rights and obligations hereunder, including matters of construction, validity and performance, shall be governed by the law of Oregon.

13.6 This agreement is intended to take effect when signed by Borrower and delivered to Bank.

13.7 If anything in this Agreement is held to be illegal, then only that portion is void and not the entire Agreement.

14.0 Special Provisions. (If none, write "None"):

Not withstanding any of the foregoing, the security interest herein provided is limited to accounts receivable on construction contracts commonly referred to as "earned estimates" and excludes retainages and other miscellaneous receivables.

Reports covering said estimates are to be submitted to the bank on a monthly basis by the 15th of each month in sufficient detail to permit the bank to verify the same and otherwise in a form satisfactory to both partys.

Signed and Delivered to Bank on the day and year first above written.

Roy L. Houck Sons' Corporation
(Name of Borrower)

By ______________________ President
(Authorized Signature)
Borrower

7185 c

RECEIVED
JAN 8 - 1970

I-86 N-7185 3411
711

Memo of meeting held 1:30 p.m. Monday, January 5, 1970, in the office of George Rohde, Chief Counsel, Oregon State Highway Division of the Department of Transportation. Present at the meeting:

Lee Crawford, Atty at law
George E. Rohde, Chief Counsel.
A. Johansen, Staff Attorney
L. I. Lindas, Staff Attorney.

Mr. Crawford, representing the United States National Bank of Oregon presented Mr. Rohde with a copy of a financing statement which indicates, he says, that the bank has a security interest in a progress payment check, in the amount of $140,000, due on contract 7215.

The Surety, Aetna Life and Casualty Co. had previously, by letter, requested the check be not paid to Houck Sons Co., their principal, due the the failure of the latter to pay labor and material bills incurred in connection with the performance of Contract 7215. A like letter has been forwarded to the State with respect to any payments due their principal on contracts 7185 and 7289.

Mr. Crawford stated that his client has a security interest in the check for $140,000 that is greater than that of Houck's surety, their position being that the rights of the surety, if any, do not arise until after payment by the latter of debts of its principal, which has not been done as yet.

The financing statement is being furnished the State so as to put the latter on notice of the claim of the United States Nat'l Bank.

Mr. Crawford also requested he be furnished ~~to the~~ copies of the letters delivered to the State by the surety. Mr. Rohde stated he would want to talk to an officer of the Houck Corp. first and secure their consent before so doing. Mr. Rohde thereupon call Carlos Houck. (See Rohde's memo re: his conversation with Mr. Houck)

Mr. Crawford was firm in his conviction that the bank had perfected a security interest in the earned estimates of the Houck Corp. relative to all of the check of $140,000.

Mr. Crawford further advised that representatives of the bank and the surety were meeting tomorrow (1-6-70) and that possibly the entire matter would be resolved at that time, or, if this was not possible, the situation might deteriorate to the point litigation might result.

L I Lindas

L I Lindas
Staff Atty.

NOTED
G. E. ROHDE

RECOMMENDED BY
ADM. CO.

Form 2-[illegible]

STATE COPY G-1P

RECEIVED
JAN 20 1970
OFFICE OF
STATE HIGHWAY ENGINEER

I-80N-7(25)341
7185

OREGON STATE HIGHWAY DEPARTMENT

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

APPROVED EFFECTIVE DATE 1/8/70
Contingent upon modification of project agreement if additional funds are required
BY
TITLE Dist. Engineer
DATE 16 JAN 1970
U. S. BUREAU OF PUBLIC ROADS

Project Name Lime
Highway Old Oregon Trail
County Baker
Contractor Roy L. Houck Sons' Corporation
Address P. O. Box 671, Salem, Oregon 97308

Date January 2 1970
Contract No. 7185
Prefix 601-1065
F. A. Project No. I-80N-7(25)341
Order No. 11

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done: Construct Special Barricade.

NOTED
F. B. KLABOE

Location by station numbers: 629+00

Estimate of quantities and cost:

Labor:	$48.00		Materials:	$120.00	
+20%	9.60		+15%	18.00	
	$57.60	Subtotal		$138.00	Subtotal

Total: $195.60

Maximum equiptment rates allowable as per AGC-State agreement.
Percentage allowed contractor is in accordance with executed contract for this job.
The net cost effect of this Work Order is a contract cost increase of $195.60.

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")

This work can best be performed on a Force Account basis and is required for the approved transition signing at the west end of project.

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization	$4,178,926.12
Present estimate of project cost, including $ 195.60 for work under this order	$4,008,560
Expected under-run ~~over-run~~ amount	$ 170,366.12
Expected under-run ~~over-run~~ per cent	4.08

Space to right of this line is for use of Salem Office

1-20-70

Submitted by: E S Thompson
E. S. Thompson, Resident Engineer

Approval Recommended: Division Engineer

Approval Recommended: Construction Engineer or Bridge Engineer

Approved
~~Deputy State Highway Engineer or~~
Assistant State Highway Engineer

RECEIVED
JAN 8 - 1970

7185

FOR FILING

I-80N-7(25)341
1141

Phone conversation with Wm. Sexton, U. S. National Bank, with Rohde & Lindas.
Friday, Jan 2, 1970 at 2 p.m.

Mr. Sexton informed us that John Huisman, their attorney will be getting in touch with Mr. Rohde.

Mr. Sexton inquired as to why, if we knew, the bonding company placed a hold on Houck's funds

Mr. Rohde stated he didn't know the exact reason, but he did know that the surety was receiving regular credit reports on the contractor and that they must have felt their position in the matter was in jeopardy. He informed Mr. Sexton that he did know that the Surety and Houck had had conferences pertaining to the matter before bringing the same to our attention.

Mr. Rohde did inform Mr. Sexton that he had heard the bank had an assignment of some kind, and if they did, we would expect them to take steps to protect their interest. However, if matters got to the point the same couldn't be resolved and the matter of their assignment was brought to our attention, we would probably feel we must place the matter and money before some court to determine who should get what.

Mr. Sexton stated that he recognized that the bonding companies rights were superior to theirs, but he wished the surety had come to them first, because he felt the matter could have been resolved without bringing us into the matter.

Mr. Rohde, recognizing there were two sides to the question, informed Mr. Sexton that the representatives of the bonding company had informed us that their only desire in doing what they did was for their protection and to aid the contractor.

To which Mr. Sexton replied it now appears that our next step is to get in touch with the bonding company to see if they could work out the problem.

Rohde stated that this is what he had advised both parties to do when this situation was called to his attention. 'I told them they aught to try and get together "

Sexton then wanted to know how long we were going to hold the money, to which Mr. Rohde stated he had no way of knowing at this time. We were just advised by the surety that they were claiming the same under their indemnity agreement or assignment they had.

Sexton asked if it was true that some vice president of the bonding company would be here Mond or Tuesday to try to work something out. We had heard this but didn't know when the party would arrive.

Respecting claims of laborers or materialmen, Rohde informed Sexton that such claims, when and if they come in, are directed to Mr. Query. If the retained amounts are great enough, no action is taken respecting the claims at that time. At least we, in the legal section knew nothing of the claims, if any, as of this time.

Sexton again reiterated they will go to the Bonding Company to see what can be done, and thanked us for our courtesy and talking with him.

NOTED
G. E. ROHDE

Leonard L. Lindas

C

RECEIVED
JAN [illegible] 1970
LING

Ætna
LIFE & CASUALTY

Casualty & Surety Division
1201 S. W. Twelfth Avenue
Portland, Oregon 97205
222-9111

December 31, 1969

I-80N-7(25)341
7185

Floyd Query, Secretary
Oregon State Highway Commission
State Highway Department
State of Oregon
Salem, Oregon

REGISTERED MAIL - RETURN RECEIPT REQUESTED

Gentlemen:

Subject: Surety Bond No. 42 S 26759 BC - Contract 7185

This refers to the contract entered into between the State of Oregon and Roy L. Houck Sons' Corporation for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County and to the bond, effective October 16, 1968 in the penal sum of $3,483,600. executed by The Ætna Casualty and Surety Company on behalf of Roy L. Houck Sons' Corporation conditioned for the faithful performance of that contract and for the payment of labor and material bills in connection therewith.

As a condition of our execution of this bond, Roy L. Houck Sons' Corporation executed in favor of the Ætna Casualty and Surety Company an application for Contract Bond and Agreement of Indemnity, a photostatic copy of which is attached. We direct your attention to Paragraphs "Third", "Fourth" and "Fifth" onpage 3 of this Application and Agreement.

Roy L. Houck Sons' Corporation has failed to pay labor and material bills incurred in connection with the performance of this contract, and for this and other unspecified reasons, the assignment of contract funds to The Ætna Casualty and Surety Company as specified in the enclosed Bond Application is in full force and effect. In addition, we claim the unpaid contract funds by reason of our equitable rights as surety.

Therefore, you are hereby notified that all further payments under this contract should be made only to The Ætna Casualty and Surety Company or with its written consent.

Very truly yours,

W. W. Laughlin

W. W. Laughlin, Manager
Claim Department

Copies given to
Rohde & Lindas
1-2-70
10:15 a.m.

RECEIVED
JAN 2 1970
10:00 am. OREGON
STATE HIGHWAY COMMISSION

Encl. Application for Contract Bond & Agreement of Indemnity
General Contract of Indemnity

L-487-A

I-80N-7(25)341

Form

RECEIVED
JAN 20 1970
OFFICE OF
STATE HIGHWAY ENGINEER

STATE COPY

G-1P

OREGON STATE HIGHWAY DEPARTM.

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

APPROVED EFFECTIVE DATE 1/5/70
Contingent upon modification of project agreement if additional funds are required
BY
TITLE Dist. Engineer
DATE 26 JAN 1970
U. S. BUREAU OF PUBLIC ROADS

Project Name: Lime
Date: December 31, 19
Highway: Old Oregon Trail
Contract No.: 7185
County: Baker
Prefix: 601-1065
Contractor: Roy L. Houck Sons' Corporation
F. A. Project No.: I-80N-7(25)341
Address: P. O. Box 671, Salem, Oregon 97308
Order No.: 10

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done:

Move and readjust alignment of Type 2 Barricade for transition signing.

NOTED
F. B. KLABOE

Location by station numbers:

620+50-632+75

Estimate of quantities and cost:

Labor:	$144.00		Equiptment:	$14.40
+20%	23.80		+15%	~~1.56~~ 2.16
	$167.80	Subtotal		~~$15.96~~ 16.56 Subtotal

Total: ~~$183.76~~ 184.36

Maximum equiptment rates allowable as per AGC-State agreement.
Percentage allowed contractor is in accordance with executed contract for this job.
The net cost effect of this Work Order is a contract cost increase of $183.76.

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization: $4,178,926.12
Present estimate of project cost, including $ 184.36 for work under this order: $3,943,040
Expected under-run ~~over-run~~ amount: $ 235,886.12
Expected under-run ~~over-run~~ per cent: 5.64

Space to right of this line is for use of Salem Office

Submitted by: E. S. Thompson
E. S. Thompson, Resident Engineer

Approval Recommended: Division Engineer

Approval Recommended: John A. Bond, Construction Engineer or Bridge Engineer

Approved: F. D. Morgan, Deputy State Highway Engineer or Assistant State Highway Engineer

1-20-70

RECEIVED
JAN 8 - 1970

FOR FI.

7185

I-5-[illegible] 7,(95) 311

[illegible]

Meeting 4:15 p.m. Tuesday, Dec 30, 1969 in the office of Floyd Query, Commission Secretary. Present:

Floyd Query, Comm. Secty.
George Rohde, Chief Counsel
L I Lindas, Staff Attorney
Al Johansen, Staff Attorney
C. Head, Ass't Comm. Secty.

Met with a Mr. Buener, representing Aetna Life & Casualty Co, who had delievered the first of three letters requesting the Highway Division make no further payments to Roy L Houck Sons, Corporation, their principle, on contract 7215 because of the failure of the Houck Corp. to pay labor and material bills incurred in connection with their performance of the foregoing contract.

Mr. Buener advised that letters pertaining to two other contracts involving the Houck Corporation would be forthcoming in the immediate future.

Mr. Buener stated that the Houck Corporation was cross paying bills--in other words using the money earned on one contract to pay bills due on one of the other contracts.

Buener stated that he had been in conference with the Houck Organization and were trying to help them out of a bad situation, but were getting no co-operation from the Houck's

He stated that there would be a representative of the Aetna co from their home office in Salem sometime next week, at which time another effort would be made with the Houck's to resolve the problem they have with them.

He further advised us that when the head office representative was in Salem, the company would furnish us with proper indemnification assurances to hold us harmless for withholding payment to the Houck's as requested by them.

Mr. Rohde stated, during the conference with Mr. Buener, that he had talked to Roy Houck today and Mr. Houck had advised him that he was not going to use the progress payment of approximately $140,000 due on contract 7215 to pay bills due on this contract.

Lindas
L I Lindas
Staff Attorney

NOTED
G. E. ROHDE

RECEIVED
JAN 8 - 1970

4442

FILED
DEC 31 1969
CLAY MYERS
SECRETARY OF STATE

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

I-80N-7185

December 30, 1969

Commercial Welding Co., Inc.
P. O. Box 300
Provo, Utah 84601

Attention: Meredith Spence
Branch Manager
Provo Branch

Gentlemen:

This is to acknowledge receipt of your claim letter of December 19 and attached copy of your invoice which states that Stach Construction Co. owes you in the amount of $8,243 for material.

From the description in your letter and on your invoice, this appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street, S.E., Salem, furnished the performance bond on this contract. We will advise them of the receipt of your claim letter, and we will also forward it to the Secretary of State for filing.

Please advise this office when your claim has been satisfied.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

NOTED
1-6-70 CR

cr

RECEIVED
JAN 2 1970
OREGON
STATE HIGHWAY COMMISSION

cc: The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation
Commission
Hon. Clay Myers - Please acknowledge receipt of this claim on the enclosed copy of this letter.

POWDER RIVER
& RANCH EQUIPMENT &
COMMERCIAL WELDING CO.

Commercial Welding Co., Inc.

388 EAST 900 SOUTH — P. O. BOX 300
TELEPHONE 374-2983 (AREA CODE 801)
PROVO, UTAH — 84601

Manufacturers of
Powder River
- CATTLE SQUEEZE CHUTES
- HYDRAULIC CHUTES
- 12" LONGER CHUTES
- HEAD STANCHIONS
- CALF TABLES
- TIPPING BULL TABLES
- CROWDING & WORK CHUTES
- PORTABLE (STEEL) CORRALS
- STOCKYARD GATES
- STEEL FENCING PANELS
- LOADING RAMPS
- PICKUP RACKS
- CATTLE GUARDS
- SCALE RACKS
- WATER TROUGHS
- FEED BUNKERS

December 19, 1969

Dear Sir:

This letter in effect is to place a lien on cattle guards we have furnished to Stach Construction Company..P.O. Box 730.. Grants Pass, Oregon and used on Job number 7185, Lime Section, Oregon Highway in Baker County Oregon.

A copy of our invoice #003657 Dated July 31, 1969 is enclosed with the unpaid amount of $8,243.00.

Very truly yours,

COMMERCIAL WELDING COMPANY, INC..

Meredith Spence

Meredith Spence
Branch Manager, Provo Branch

MS/nf

Enclosure

OREGON
STATE HIGHWAY COMMISSION

Commercial Welding Company, Inc.

MANUFACTURERS OF POWDER RIVER RANCH EQUIPMENT

P. O. BOX 300 388 EAST 900 SO. PROVO, UTAH 84601
Telephone 801 374-2983

ACCOUNT OF [illegible]

SHIP TO
LIME SECTION OLD ORE HWY
BAKER COUNTY, OREGON

RMS NET 10TH PROX. NO DISCOUNT

DATE	INVOICE NO.	ORDER NO.	DELIVERY NO.	
31'69	3,657	521		

DESCRIPTION	CODE	QUANTITY	PRICE	GROSS	DISCOUNT	NET
ER SPECIAL INFORMATION						
X 24 GUARD W/END W[illegible]		1	935.00	935.00		935.00
X 28' GUARD W/END W[illegible]		7	1,044.00	7,308.00		7,308.00

OUNT	STATE CODE	SALES TAX FACTOR	SALES TAX AMOUNT	CODE	AMOUNT OTHER ITEMS	NET INVOICE
.00			.00 *			8,243.00 *

CODE
00 – FREIGHT 01 – MISCELLANEOUS

MDSE. RECEIVED BY ____________ DATE ____________ TRIP NO. ____________

SHIPPED VIA ____________ FROM ____________

RECEIVED
~~DEC 5 - 1969~~
Jan 20

FORM 2-90-X (12-67)
FOR FILE
I-80N-7185
NOTED
7185 FORREST COOPE

ORIGINAL SIGNED BY
F. B. KLABOE

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE
Salem, Oregon
December 29, 1969

To: MEMORANDUM TO THE FILE:

SUBJECT: Houck Bros. Contracts 7185

A telephone call was received at 8:15 this morning from Aetna Surety Co. representative Mr. Wm. George. Mr. Query was contacted and also was connected in the threeway conversation.

This call was the result of my efforts on Friday, December 26, to reach the Aetna representative who had contacted Mr. Cecil Head by phone on December 23 and placed a hold on further delivery of partial payment checks on Houck Contracts with the Highway Division. On December 24 Mr. Jim Houck had come to the office of Mr. Klaboe to demand delivery of a check for some $134,000. At that time the undersigned was called to the conference in Mr. Klaboe's office.

It was my advice that the Highway Division, having been placed "on notice" by the surety to withhold payment, would jeopardize its rights against the surety under the bond if it failed to recognize the surety's claim even though received orally. It was stated that we should have written confirmation and it was my understanding such would be received forthwith.

On Friday, December 26, I received a call at home from Mr. Roy Houck stating that the holding of the check by the State would be seriously embarrassing since they had written sizable checks on the strength of its receipt. I reiterated the position previously taken. Because of Mr. Houck's statements I came to this office to see if the written confirmation from the surety company had been received. It had not, so an attempt was made to reach the Aetna representative in Portland by phone. Their office was closed with an "answering service" taking phone calls. After some insistence I was able to reach a Mr. Huffman.

The latter individual was not personally handling the Houck matter, but he did say he was aware that the Surety was considering the taking over of the Houck contracts and that there had been a conference between the Surety's auditor, counsel and claims man with Houck and the telephone call to Mr. Head was a result of the conference. Mr. Huffman promised he would have Mr. George call this morning.

Mr. George advised that Houcks were having temporary limited financial problems and that the surety would be assisting in these financial problems to get the Houck work completed. In line with this they wanted

REFERRED TO
Porter
BY ASST. STATE HWY. ENGR
Info

the checks sent to Houck through the Aetna's office so they could have the funds properly applied.

To this end Mr. George had requested the Houcks to sign a letter to the Highway Division as to the handling of payments. He apparently has had more recent conversations with Mr. Houck, or Mr. Burda, and is to have another conference with them this morning and expects to have the matter straightened out.

If the voluntary handling by the contractor cannot be arranged, Aetna evidently will use its pre-existing assignment to accomplish its purpose.

G. E. ROHDE
Chief Counsel

GER:hg

cc Mr. Fred Klaboe
Mr. Floyd Query

RECEIVED
DEC 29 1969
OFFICE OF
STATE HIGHWAY ENGINEER

Gen. Files

RECEIVED
DEC 10 1969

4438

FILED
DEC - 3 1969
CLAY MYERS
SECRETARY OF STATE

**OREGON STATE
HIGHWAY DEPARTMENT**

[illegible]

1185

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

December 2, 1969

Alaska Steel Company
2750 S.W. Moody
Portland, Oregon 97201

Attention: Mr. Lance L. Lyon
Credit Department

Gentlemen:

This is to acknowledge receipt of your claim letters of November 20 and 24, 1969, and a copy of your purchase order number 849 stating that Stach Construction Company, Inc., (subcontractor) owes you for wide flange beams, H piling and steel pipe piling in the amount of $19,532.50. From the description of your letter, this appears to be in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., furnished the performance bond on this contract. We will advise them of the receipt of your claim letters and we will also forward them to the Secretary of State for filing.

Please notify this office when your claim has been paid.

Very truly yours,

NOTED ON CARD
12-9-69 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

RECEIVED
STATE [illegible]

cc The Aetna Casualty & Surety Co.
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation

bc Commission
Secretary of State - Please acknowledge receipt of these claim letters on the enclosed copy of this letter.

ALASKA STEEL CO. JOBBERS AND DISTRIBUTORS
ESTABLISHED 1911
2750 S.W. MOODY PORTLAND, OREGON 97201
TELEPHONE: 228-7501

November 24, 1969

Oregon State Highway Division
Highway Building
Salem, Oregon 97310

Attention: Mr. Floyd Query, Secretary

Gentlemen:

Thank you for the prompt reply to my letter of 11-20-69 regarding lack of payment to us on the State Highway work.

Investigation reveals that this merchandise was furnished for Contract #7185 as we had to phone Mr. Stach at Huntington.

To let you know that we are not completely disorganized, I am enclosing a photo copy of the purchase order sent us before their truck started picking up the merchandise.

It might be interesting to know why the purchase order refers to a job over 2 years old.

Very truly yours,

ALASKA STEEL CO.

Lance L Lyon

Lance L. Lyon
Credit Department

LLL/hs

Enc.

VENDOR'S COPY

STACH CONSTRUCTION COMPANY

P. O. BOX 730 - GRANTS PASS, OREGON
PHONE: 476-5031

PURCHASE ORDER

№ 849

TO:
Alaska Steel Co.
2750 S. W. Moody
Portland, Oregon 97201

DATE July 18, 1969

JOB NUMBER Contract No. 69-10 Portage Bridge add Overflow Structure

SHIP VIA Our truck

SHIP TO:
Stach Construction Co., Inc.
~~Rexxland~~
P. O. Box 730
Grants Pass, Oregon 97526

WHEN REQ. July 25, 1969

TERMS: UNLESS OTHERWISE SPECIFIED ON INVOICE WE WILL TAKE 2 PER CENT DISC. 10TH OF MONTH FOLLOWING DATE OF PURCHASE.

PLEASE FURNISH US WITH THE MATERIAL SPECIFIED BELOW ON THE TERMS AND CONDITIONS SET FORTH ON THIS ORDER.

QUANTITY	DESCRIPTION	NET UNIT COST	TOTAL	COST DISTR
	10-BP 42 H Piling: 12 pcs 35', 12 pcs 30' total 780'	7.75 cwt		
✓	Steel Pipe piling: 14" diam, .25 wall thick, 36.71#/ft, A-252 Grade 1: 24 pcs 40', 1 pc 30' total 990'	3.49 ft		
	Base Plates: 14" diam, ½" thick of A-36 steel 18 pcs	7.00 ea		

Pipe Inv # 7095 7-15-69
" " # 75754 - 8/28/69

RECEIVED
NOV 5 1969
OREGON
STATE HIGHWAY COMMISSION

YOUR ATTENTION PLEASE

1—PLEASE SHOW PURCHASE ORDER NO. AND JOB NO. ON ALL INVOICES.
2—WE REQUIPE SEPARATE BILLING FOR EACH JOB

BY George Gen Mgr
STACH CONSTRUCTION CO.

MATERIAL RECEIVED IN GOOD ORDER ______ (YES) (OTHER)

DATE RECEIVED ______

RECEIVED
NOV 21 1969

FOR FILE

I-80N-7([illegible])341

7185

CC

November 21, 1969

Alaska Steel Company
2750 S.W. Moody
Portland, Oregon 97201

Attention: Mr. Lance L. Lyon
Credit Manager

See contract file No. 7185

Gentlemen:

Your letter of November 20 refers to Contract No. 6910 of which Roy L. Houck Sons' Corporation is the prime contractor. Contract No. 6910 was completed about two and a half years ago and final payment was made about two years ago.

At the present time, Roy L. Houck Sons' Corporation hold three contracts with us: Contract No. 7185 on the Lime Section of the Old Oregon Trail in Baker County; Contract No. 7215 on the Myrtle Point Bridge Section of the Coos Bay-Roseburg Highway; and Contract No. 7289 on the Saddle Mountain Junction-Little North Fork Nehalem River Section of the Sunset Highway. These last three are all active contracts.

Can you tell us to which of these your claim pertains.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

FQ:sj

ALASKA STEEL CO. JOBBERS AND DISTRIBUTORS
ESTABLISHED 1911
2750 S.W. MOODY PORTLAND, OREGON 97201
TELEPHONE: 228-7501

November 20, 1969

Mr. Fred Query
State Hiway Building
Salem, Oregon 97310

Dear Sir:

We would like to inquire regarding the status of payments to your contractors on Contract #69-10 on the Portage Bridge and Overflow Structure.

We released to Stach Construction of Grants Pass, Wide Flange Beams, H Piling and Steel Pipe Piling in the amount of $15,446.21 in July and an additional $4,066.29 in August for a total of $19,532.50 on which we have received no payments.

Stach Construction, a subcontractor for Roy L. Houck Sons Co. of Salem, tells us that they have not received payment from their prime contractor.

A phone call to Roy L. Houck Sons gives us the story that all bills have been paid!

We are only interested in getting our money within a reasonable time and ask if it is within your power to expedite payment to us.

Very truly yours,

ALASKA STEEL CO.

Lance L Lyon

Lance L. Lyon
Credit Manager

LLL/hs

Form E-201 (Rev.)

RECEIVED
DEC 9 1969
OFFICE OF
STATE HIGHWAY ENGINEER

7185 ... 9 ... 341

STATE COPY

OREGON STATE HIGHWAY DEPARTMENT

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

APPROVED EFFECTIVE DATE 12/9/69
Contingent upon modification of project agreement if additional funds are required
BY F. Kalash
TITLE Dist. Engineer
DATE 8 DEC 1969
U. S. BUREAU OF PUBLIC ROADS

Project Name: Lime
Highway: Old Oregon Trail
County: Baker
Contractor: Roy L. Houck Sons' Corporation
Address: P. O. Box 671, Salem, Oregon 97308

Date: November 14, 1969
Contract No.: 7185
Prefix: 601-1065
F. A. Project No.: I-80N-7(25)341
Order No.: 9

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done:

Furnish and install 1 inch steel pipe conduit under P.C.C. paving.

Furnish and install weatherguard type lighting on Type II Barricade.

NOTED
F. B. KLABOE

Location by station numbers:

Pipe conduit - - Station 632+00

Type II Barricade Lighting - - 621+00 to 629+00

Estimate of quantities and cost:

Labor - -	$224.00	Equipment - -	$193.20	Materials - -	$949.00	
+20% -	44.80	+15% - -	28.98	+15% - -	142.35	
Subtotal	$268.80	Subtotal	$222.18	Subtotal	$1,091.35	Total $1,582.33

Maximum equipment rates allowable as per A.G.C. - State agreement.
Percentage allowed contractor is in accordance with executed contract for this job.
The net cost effect of this work order is a contract cost increase of $1,582.33.

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")

Contractor not willing to quote a price for Price Agreement.

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization	$4,178,926.12
Present estimate of project cost, including $1,582.33 for work under this order	$3,942,471
Expected under-run amount	$236,455.12
Expected under-run per cent	5.66

Space to right of this line is for use of Salem Office

Rec'd E. Morgan 12-9-69

Submitted by: E. S. Thompson, Resident Engineer
E. S. Thompson

Approval Recommended: Division Engineer

Approval Recommended: Construction Engineer or Bridge Engineer

Approved: G. L. Deeter, Deputy State Highway Engineer or Assistant State Highway Engineer

Form A-106—5M

RECEIVED
DEC 9 1969
OFFICE OF
ENGINEER

STATE FORCES
NOT INVOLVED

STATE COPY

G-1P

APPROVED EFFECTIVE DATE 11/27/69
Contingent upon modification of project agreement if additional funds are required
BY E. J. Falach
TITLE Dist. Engineer
DATE 8 DEC 1969
Order No. 8
U. S. BUREAU OF PUBLIC ROADS

OREGON STATE HIGHWAY DEPARTMENT

Order for State Force Work

APPLYING TO CONTRACT PROJECTS

Project Name Lime ✓ Date Nov. 10 1969

Highway Old Oregon Trail ✓ Contract No. 7185 ✓ F. A. Project No. I-80N-7(25)341 ✓

County Baker ✓ Prefix 601-1065 ✓ Account No. 274-08 ✓

Description of Work To Be Done:

Provide temporary electrical service to Vertical Fashing Beacon and Type II Barricade (Idaho Power Company)

Location by Station Numbers:

632+00

Estimate of Quantities and Costs:

Lump Sum Cost-----------$821.00 ✓

The net cost effect of this work order is a contract cost increase of $821.00.

NOTED
F. B. KLABOE

Explanation:

Electrical service required until Weatherby-Lime Section is completed.

INSTRUCTIONS

Submit a separate order for each piece or kind of state force work to be undertaken. Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs.

Five copies of the order are to be submitted to Salem. After approval by the Assistant State Highway Engineer, one copy will be sent to the Division Engineer and one copy to the Resident Engineer.

Project authorization	$4,178,926.12
Present estimate of project cost, including $ 821.00 for work under this order	$3,940,199
Expected under-run (amount)	$ 238,727.12
Expected under-run (per cent)	5.71

Space to right of this line is for use of Salem Office

Submitted by: E. S. Thompson Resident Engineer
E. S. Thompson

Approval Recommended: H. S. Coulter Division Engineer

Approval Recommended: for Construction Engineer, ~~or Bridge Engineer~~

Approved: L. H. Morgan ~~Deputy State Highway Engineer, Assistant State Highway Engineer or~~ Construction Office Engineer.

12-9-69

This order does not constitute authority for expenditures until approved by the Deputy or Assistant State Highway Engineer

I-80N-7(25)341

406 (Rev.)—8M—4-66

RECEIVED
NOV 6 1969
OFFICE OF
STATE HIGHWAY ENGINEER

STATE COPY

APPROVED EFFECTIVE DATE
Contingent upon modification of project agreement if additional funds are required
BY Gordon R. Brooks
TITLE Div. Engineer
DATE 3 NOV 1969

OREGON STATE HIGHWAY DEPARTMENT

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

U.S. BUREAU OF PUBLIC ROADS

Project Name	Lime Section	Date	October 20, 1969
Highway	Old Oregon Trail	Contract No.	7185
County	Baker	Prefix	601-1065
Contractor	Roy L. Houck Sons' Corporation	F. A. Project No.	I-80N-7(25)341
Address	P. O. Box 671, Salem, Oregon 97308	Order No.	8

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done:

Move and reshape rock slope protection at R.R. structure.

Location by station numbers:

722+00

NOTED
F. B. KLABOE

Estimate of quantities and cost:

Equipment Rental	$115.92	Labor	$39.20	
+15%	17.39	+20%	7.84	
Sub total	$133.31	Sub total	$47.04	Total = $180.3~~1~~5

Maximum equipment rates allowable as per A.G.C. - State agreement.
Percentage allowed contractor is in accordance with executed contract.
The net effect of this work order is a contract cost increase of $180.3~~1~~5.

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")

This work to be performed to satisfy the request of the U.P.R.R.

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization	$4,178,926.12
Present estimate of project cost, including $180.35 for work under this order	$3,931,745
Expected under-run ~~overrun~~ amount	$247,181.12
Expected under-run ~~overrun~~ per cent	5.91

Space to right of this line is for use of Salem Office

Sumbitted by: E S Thompson
E. S. Thompson
Resident Engineer

Rec'd to Morgan 11-6-69

Approval Recommended:
Construction Engineer or Bridge Engineer

Approval Recommended
Division Engineer

Approved
Deputy State Highway Engineer or Assistant State Highway Engineer

RECEIVED
OCT 20 1969
FOR FILES

I-80N-7(25)341
7185

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
October 17, 1969

To: MEMO TO THE FILES

SUBJECT: Routine Inspection
Lime Section
Old Oregon Trail Highway
Contract No. 7185

On October 15, an inspection of the subject section was made. The completed PCC pavement rides very well. The contractor is now placing shoulder and median rock prior to the AC shoulder and median paving. Some guardrail work is also progressing.

This work seems to be progressing very slowly and probably will contribute to a delay in the AC paving. This paving should be done as soon as possible, to beat adverse weather conditions. At the present, it does not appear that this project can be opened for traffic until about January due to the bridge construction.

John H. Walker
John H. Walker
Field Construction Engineer

JHW:fw

cc: F. B. Klaboe
H. S. Coulter
~~P. E. Burnett~~
E S Thompson

RECEIVED
OCT 17 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
SEP 3 1969
FOR FILING

I. 2010-7(25)-3'11
7185

September 3, 1969

Western Equipment Company
Box 400
LaGrande, Oregon 97850

Gentlemen:

This will acknowledge receipt of your letter of August 19 and attached copy of your notice of claim dated August 19 addressed to The Aetna Casualty & Surety Company advising that Roy L. Houck Sons' Corporation owes you for labor and supplies in the amount of $26,339.24. Your letter stated this is in reference to the Roy L. Houck Sons' Corporation Contract No. 7185 for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County. The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street S.E., Salem, furnished the performance bond on this contract.

We also acknowledge receipt of a copy of your letter dated August 21 addressed to The Aetna Casualty & Surety Company stating that you received from Roy L. Houck Sons' Corporation on August 21, 1969, a check in the amount of $23,024.97 and that you are cancelling your claim against the performance bond which you submitted on August 19, 1969.

This information is being noted in our records and we will advise the surety, the agent, and the principal contractor of the receipt of your letters.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:sj

cc The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation

CC: Oregon State Highway Commission
Roy L. Houck Sons' Corporation
Bert Roberts
Ted Nugent

C O P Y

La Grande, Oregon
August 21, 1969

Aetna Casualty & Surety Co.
1201 S. W. 12th
Portland, Oregon 97200

Re: Roy L. Houck Sons' Corporation
Contract #7185
Oregon State Highway Department
Old Oregon Trail - Lime Section
Baker County, Oregon

Gentlemen:

We are pleased to advise that we have today received from Roy L. Houck Sons' Corporation a check in the amount of $23,024.97 for application on account and are, therefore, cancelling our claim against the performance bond which we submitted August 19, 1969.

Yours very truly,

WESTERN EQUIPMENT COMPANY

Jean E. Walker

Jean E. Walker (Mrs.)
Credit Department

JEW/lmb

Cc

YOUR CAT® DEALER

Cat, Caterpillar and Traxcavator are registered trademarks of Caterpillar Tractor Co.

WESTERN EQUIPMENT COMPANY

GENERAL OFFICES:
4009 Fairview Ave.
Mailing Address Box 7487
Boise, Idaho 83707
Phone 343-5401
Area Code 208

2405 Hwy. 30 W.
Mailing Address Box 4640
Pocatello, Idaho 83201
Phone 232-2640
Area Code 208

1805 Adams Ave.
Mailing Address Box 400
LaGrande, Oregon 97850
Phone 963-3101
Area Code 503

323 Canyon City Blvd.
Mailing Address Box 377
John Day, Oregon 97845
Phone 575-1301
Area Code 503

La Grande, Oregon
August 19, 1969

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Oregon State Highway Commission
State Highway Building
Salem, Oregon 97310

Re: Roy L. Houck Sons' Corporation
Contract #7185
Oregon State Highway Department
Old Oregon Trail - Lime Section
Baker County, Oregon

Gentlemen:

We enclose a copy of our claim, as that claim now exists against Roy L. Houck Sons' Corporation, prime contractor on the above mentioned contract. This claim is made in accordance with Section 270b-(a) of the Miller Act.

Yours very truly,

WESTERN EQUIPMENT COMPANY

Jean E. Walker

Jean E. Walker (Mrs.)
Credit Department

JEW/lmb
enc.

Clc

NOTED
FLOYD QUERY

RECEIVED
AUG [illegible] 1969
OREGON
STATE HIGHWAY COMMISSION

NOTED
C. W. HEAD

CC: OREGON STATE HIGHWAY COMMISSION
ROY L. HOUCK SONS' CORPORATION
BERT ROBERTS - BOISE
TED NUGENT

La Grande, Oregon
August 19, 1969

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Aetna Casualty & Surety Co.
1201 S. W. 12th
Portland, Oregon 97200

Re: Roy L. Houck Sons' Corporation
Contract #7185
Oregon State Highway Department
Old Oregon Trail - Lime Section
Baker County, Oregon

Gentlemen:

Pursuant to Section 270b-(a), of the Miller Act, we hereby present our claim as that claim now exists against Roy L. Houck Sons' Corporation, prime contractor on the above mentioned contract. Our claim is for the performance of labor and for the furnishing of supplies plus interest on the past due balances as they become past due. The total amount due and owing amounts to $26,339.24 and we hereby make demand for payment thereof plus interest on any balance now past due.

We reserve the right, should it become necessary, to sue on the payment bond you have written as surety on the above named contractor, for the amount specified herein, or the balance thereof, unpaid at the time of institution of said suit, and to prosecute said action to final execution and judgement for the sums due, plus interest and reasonable attorney's fees thereon.

Yours very truly,

WESTERN EQUIPMENT COMPANY

Jean E. Walker

Jean E. Walker (Mrs.)
Credit Department

JEW/lmb

#4431

Gen. Files

RECEIVED
SEP 0 - 1969
FOR FILING

FILED
SEP 0 4 1969
CLAY MYERS
SECRETARY OF STATE

OREGON STATE HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

7185

September 3, 1969

Rudolph's Saw & Tool Sharpening
1940 Oak Street
Baker, Oregon 97814

Gentlemen:

This will acknowledge receipt of your claim letter of August 25 stating that Stach Construction Company owes you for saw-filing services in the amount of $204.05. From the description given, it appears that the contract to which you refer is our Contract No. 7185 awarded to Roy L. Houck Sons' Corporation for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County.

The surety on this project is The Aetna Casualty & Surety Company through Updegraff Insurance, Inc., 776 Commercial Street S.E., Salem. We will advise them that your letter has been received and we will also send it to the Secretary of State for filing.

When your claim has been paid, please let us know so that we can clear our records.

NOTED ON CARD
9-8-69 CR

Very truly yours,

Lloyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation
Secretary of State

Please acknowledge receipt of this claim on the enclosed copy of this letter.

9-4-69

RUDOLPH'S
SAW AND TOOL SHARPENING
1940 OAK STREET
BAKER, OREGON 97814

August 25, 1969

#7185

State of Oregon
State Highway Department
Salem, Oregon

Attn: Floyd Query

Dear Sir:

After sending notice to the Stach Construction Company, I have been disappointed in not receiving payment for saw-filing services rendered. The account is four months old and no arrangement for payment has been made by the construction firm.

Services for May, June, July and August has brought the overdue balance to $204.05. Their failure to remit the above amount can only be construed as the construction firm's intent not to pay.

Any help that the State can give in the collection of this bill will be sincerely appreciated.

Sincerely,

R. T. Rudolph

R. T. Rudolph

P.S. Location Lime Oregon Overpass

RECEIVED
SEP 22 1969
SEP 12 1969
OFFICE OF
STATE HIGHWAY ENGINEER
FOR FILING

I-80N-7(25)341

7185

25 AUG 1969
Date
Title Dist. Engin
U.S. Bureau of Public Road

OREGON STATE HIGHWAY DEPARTMENT

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

Project Name	Lime	Date	August 22, 1969
Highway	Old Oregon Trail	Contract No.	7185
County	Baker	Prefix	601-1065
Contractor	Roy L. Houck Sons' Corporation	F. A. Project No.	I-80N-7(25)341
Address	P. O. Box 671, Salem, Oregon 97308	Order No.	6

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done:

Furnish and install approximately 44, 1" x 18" dowel bars in bridge end panels at N. Huntington structure.

NOTED
F. D. KLABBE

Location by station numbers:

Sta. 815+85

Estimate of quantities and cost:

Materials	$ 50.00				
Equipment	200.00	Labor	$100.00		
+15%	37.50	+20%	20.00		
Subtotal	$287.50		$120.00	Total	$407.50

Maximum equipment rate allowable as per A.G.C.-State Agreement.
Percentage allowable contractor is in accordance with executed contract for this job.
Net effect of this work order is a contract cost increase of $407.50.

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")

Dowel bars were not installed on previous contract since bridge end panels joined asphaltic concrete paving.

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization	$4,178,926.12
Present estimate of project cost, including $407.50 for work under this order	$3,940,815
Expected under-run ~~XXXXXXX~~ amount	$238,111.12
Expected under-run ~~XXXXXXX~~ per cent	5.70

Space to right of this line is for use of Salem Office

Submitted by: /s/ E. S. Thompson
E. S. Thompson
Resident Engineer

Approval Recommended: /s/ John A. Bond
for
Construction Engineer~~XX~~ ~~XXXXXXXXXXX~~

Approval Recommended: /s/ H. S. Coulter
Division Engineer

Approved: /s/ F. D. Morgan ✓ 9-15-69
~~XXXXXXXXXXXXXXXXX~~
~~XXXXXXXXXXXXXXXXXXX~~
~~XXXXXXXXX~~
Construction Engineer

SP*23577-734

RECEIVED
AUG 18 1969

FOR FILES
I-5CN-7123, 3416
7186

7165
7097

C

OREGON PORTLAND CEMENT COMPANY

INCORPORATED 1916

111 S.E. MADISON

PORTLAND, OREGON 97214

August 15, 1969

REFERRED TO
Morgan
BY DEPUTY STATE HIGHWAY ENGINEER

cc Klaboe

Orig to Morgan
copy to files
8-18-69

REFERRED TO
admin
BY SECRETARY

Mr. Floyd Query, Secretary
Oregon State Highway Commission
Highway Building
Salem, Oregon 97310

Dear Mr. Query:

With reference to an agreement dated July 8, 1969, between our Company and the State of Oregon Highway Department concerning the sealing of cement bins at our Lime, Oregon plant, please be advised that the cement has been produced and the bins have been refilled as per agreement.

It is our understanding that the Contractor will start the concrete paving on the Lime job September 15th. Should you desire to physically seal these bins prior to that time, please advise your resident engineer.

We appreciate very much the efficient manner in which our problem was solved by your Department. Please address any further communication on this matter to Mr. Erik Voldbaek at this office.

Sincerely,

OREGON PORTLAND CEMENT COMPANY

Edward C. Wegner
cbr

Edward C. Wegner
Sales Manager

ECW/cbr

cc: G. E. Rohde, Chief Counsel
Erik Voldbaek

RECEIVED
AUG 18 1969
OFFICE OF
STATE HIGHWAY ENGINEER

NOTED

RECEIVED
AUG 18 1969
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
AUG 11 1969
FORM E-30-X (12-67)
FOR FILING

I - PAN 7C [illegible]
7185

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
August 5, 1969

SUBJECT: Safety Impact Devices at Gore Areas
Lime Section
Old Oregon Trail Highway
Contract No. 7185

To:
MEMO TO THE FILES

Several months ago, the contractor on the subject project proposed an alternate traffic control pattern at the easterly portion of the project which would eliminate the stage construction as set forth in the plans. His proposal was accepted with certain reservations whereas he would be responsible for costs and traffic control devices, signs, etc. as were thought necessary.

There was one area in which the two-lane detour section divided into the four-lane divided highway and at which point a gore was necessary at the division point. Several problems had been encountered at similar areas on other projects which were considered hazardous. In an attempt to lessen or alleviate such problem areas, a new approach at this gore area was recommended to be tried.

As shown by the accompanying photos, a series of barrels was placed prior to the temporary guardrail to act as a cushion if hit and also as a warning device. The barrels as shown were held together by means of a wire cable. They were filled with wood shavings and a plastic sheet was placed on top to eliminate blowing away of the sawdust and also keep rain and moisture out. The barrels were painted white and then orange-yellow florescent striping was pasted on them. At the rear was placed the flashing beacon and "KEEP RIGHT" sign.

The photos show the installation from the front, sides and rear. To date, there have been no vehicles hit the installation, perhaps because of the reflective patterns, flashers, signs, etc., or perhaps because they have not beenin use for an extended period of time.

Examination of this installation indicates it may not be extensive enough in depth. It, however, appears to be quite effective and is definitely not expensive. The Resident Engineer reports that at night it shows up exceptionally well. While it has been installed only a couple of weeks, it is thought that the general pattern is very good and it is very worthwhile to try a few more similar type installations at critical areas.

John H. Walker
John H. Walker
Field Construction Engineer

JHW:fw
Attach.
cc: F. B. Klaboe
D. J. Barbee
H. S. Coulter
E. S. Thompson

RECEIVED
AUG 6 1969
OFFICE OF
STATE HIGHWAY ENGINEER

I 80N-7(25)341

STATE COPY

Contingent upon modification of project agreement if additional [illegible]
Date 17 JUL 1969
Title Dist. Engineer
U.S. Bureau of Public Roads

Form A-105—5M

7185

G-1P

STATE FORCES NOT INVOLVED

OREGON STATE HIGHWAY DEPARTMENT

Order for State Force Work

APPLYING TO CONTRACT PROJECTS

Order No. 6

Project Name Lime
Date July 18, 1969
Highway Old Oregon Trail
Contract No. 7185 F. A. Project No. I-80N-7(25) 341
County Baker
Prefix 601-1065 Account No. 285-06

Description of Work To Be Done:

Relocate support pole for temporary neon sign.
(Idaho Power Company)

Location by Station Numbers:

798+50

Estimate of Quantities and Costs:

Lump Sum: $119.00

The net cost effect of this order is a contract cost increase of $119.00

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AUG 4 1969
OFFICE OF
STATE HIGHWAY ENGINEER

Explanation: Support pole is in embankment area for roadbed construction.

INSTRUCTIONS

Submit a separate order for each piece or kind of state force work to be undertaken. Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs.

Five copies of the order are to be submitted to Salem. After approval by the Assistant State Highway Engineer, one copy will be sent to the Division Engineer and one copy to the Resident Engineer.

Project authorization	$4,178,926.12
Present estimate of project cost, including $119.00 for work under this order	$4,058,213.
Expected under-run XXXXXXXX (amount)	$120,713.12
Expected under-run XXXXXXXX (per cent)	2.89

Space to right of this line is for use of Salem Office

Submitted by: /s/ E. S. Thompson
E. S. Thompson
Resident Engineer

Approval Recommended: /s/ John A. Bond
for Construction Engineer

Approval Recommended: /s/ H. S. Coulter
Division Engineer

Approved: /s/ F. D. Morgan / 8-4-69
Construction Engineer

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JUL 16 1969
FOR FILING

I-80N-7(25) 347

7185

July 15, 1969

Oregon State Highway Commission

Gentlemen:

There will be presented at the August 19 meeting an agreement with the Union Pacific Railroad Company and Roy L. Houck Sons' Corporation covering the construction of a haul road across the railroad at grade on the Lime Section of the Old Oregon Trail Highway in Baker County.

The agreement provides for the Railroad to be reimbursed for all its expenses caused by the construction of this crossing. Since the crossing is being built for the contractor's convenience, all the expense is passed on to the contractor and there will be no cost to the State.

The agreement has been executed by the contractor and we recommend your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

R. L. Porter
Deputy State Highway Engineer

cc: Floyd Query
Forrest Cooper
F. B. Klaboe
V. D. Wolfe
G. E. Rohde (Attn: Jack Sollis)
F. D. Morgan (Attn: T. W. Litchfiedd)
H. S. Coulter

TWL:ss sr

RECEIVED
AUG 13 1969
FOR FILING

I-80N-7(35)341
7185

Hd

7-8-69

MISC. CONTRACTS and
AGREEMENTS No. 754

July 11, 1969

Oregon Portland Cement Company
111 S. E. Madison Street
Portland, Oregon 97214

Attention: Mr. Ed C. Wagner
Sales Manager

Gentlemen:

Attached for your records is a fully executed copy of an agreement allowing Oregon Portland Cement Company to use State-owned cement in sealed bins at Lime on the Pendleton Bypass Project in Umatilla County. Also, attached is a fully executed copy of the surety bond.

We have retained fully executed copies of the agreement and the bond for the Commission's files.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

Attachments

cc R. L. Porter
G. E. Rohde
F. D. Morgan (agreement attached)
Scott Coulter

fkn

C

RECEIVED
JUL 7 - 1969

FOR FILE

I-80N-7(35)341
7185

July 3, 1969

Roy L. Houck Sons' Corporation
P. O. Box 671
Salem, Oregon 97308

Attention: Mr. C. T. Houck
Vice President

Re: Release of Type I cement
Contract No. 7185
Contract No. 7097

Gentlemen:

This will acknowledge receipt of your letter of July 2, 1969, which, we understand, was requested of you by Oregon Portland Cement Company. Also, we assume you understand that the release of cement was requested by that Company, and not by the State.

Presumably, your reference to "40,000 yards" was intended to refer to 40,000 barrels. According to our records, Rogers' Pendleton job is Contract No. 7097, rather than 7907.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

AHJ:rh; FQ:sj

cc Mr. R. L. Porter
Mr. G. E. Rohde

C

RECEIVED
JUL 3 - 1969

FOR FILING

I-80N-7(25)341

7185

ROY L. HOUCK SONS' CORPORATION
Heavy Construction Contracting
1158 CHEMEKETA ST. N.E. SALEM, OREGON 97308
P.O. BOX 671 PHONE 585-5950

"AN EQUAL OPPORTUNITY EMPLOYER"

July 2, 1969

State of Oregon
Department of Highways
Salem, Oregon

ATTN: Mr. Floyd Query, Secretary

Gentlemen:

In accordance with your request, please allow the Oregon-Portland Cement Company to release 40,000 yards of pretested type I cement in bins #11, #12, and #13 to be shipped to the Pendleton Paving Project, Roger's Construction Company, Contract #~~7907~~ 7097.

It is my understanding that these bins will be refilled at once for use on our contract #7185 on the Lime Project, Old Oregon Trail Section.

Very truly yours,

ROY L. HOUCK SONS' CORPORATION

C. T. Houck
Vice President

Copy to Rohde
4:25 P.M. 7-2-69

NOTED
FLOYD QUERY
7-2-69
4:15 PM

JUL 1 - 1969

7185

June 30, 1969

Oregon State Highway Commission

Gentlemen:

On the agenda for the July 8 meeting will appear the matter of confirming an agreement with Oregon Portland Cement Company relative to materials produced for the Lime Section of I-80N in Baker County.

As you may recall, our job specifications call for payments to the contractor for materials acquired for projects but not yet incorporated in the work. Payment is 90 percent of the invoiced price, f.o.b. the job site, and the material must be in areas or containers under State control. In this instance, the contractor for the Lime Section purchased cement which is stored in Cement Company bins that are secured by State seal.

The Cement Company is also under contract with our contractor at Pendleton to supply cement for that project, and it now appears that the Pendleton job will be paved prior to the Lime job. The same paving subcontractor is involved in both projects.

In order to supply the Pendleton job without delay, it is necessary that the Cement Company make use of the bin space now occupied by State cement in Lime. An agreement has been prepared whereby the Cement Company may draw from the State bins at Lime for the Pendleton job and will replace the material drawn just as fast as its manufacturing process will permit. This will enable the Pendleton job to proceed without delay and will cause no delay in the Lime project. In addition, the Cement Company will hold the State harmless from any and all causes whatsoever.

This matter was approved by Mr. Jackson on June 26, and I recommend your concurrence.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
F. B. Klaboe
Victor D. Wolfe
F. D. Morgan
H. S. Coulter
G. E. Rohde
V. E. Skoog

RLP:ms sr

RECEIVED
JUN 30 1969

FORM E-30 50M 7-64 SP*6228-734

FOR FILING

I-5CN-7(35)-241
1145

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
June 26, 1969

SUBJECT:

To: Memo to File

On this date approval was secured from Chairman Jackson to enter into an agreement with Oregon Portland Cement Company which will permit the Company to use State-owned cement in sealed bins at Lime on the Pendleton Bypass job. This material was purchased as "material on hand" from the contractor, Roy L. Houck Sons, Corp., to be used on the Lime project.

The Cement Company will post bond and will hold the State harmless from claims, if any, that might arise from Houck. The Company will replace the material in the sealed bins as rapidly as its manufacturing process will permit. The same contractor is doing the paving on both jobs and as far as can be determined, no complications should arise.

Our Legal Department and the attorney for Oregon Portland Cement Company will prepare agreements in a form for the Secretary to execute. The matter will be placed on the agenda for confirmation at the next Commission meeting.

R.L.P.

R. L. Porter
Deputy State Highway Engineer

RLP:ms
cc Forrest Cooper
F. B. Klaboe
Victor D. Wolfe
G. E. Rohde
F. D. Morgan
Scott Coulter

5

RECEIVED
JUL 7 1969
OFFICE OF
STATE HIGHWAY ENGINEER

7185

Form E-306—5M

STATE COPY G-1P

OREGON STATE HIGHWAY DEPARTMENT

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

C

APPROVED
Contingent upon modification of project agreement if additional funds are required.
Date JUN 1 3 1969 By
Title Dist. Engineer
U.S. Bureau of Public Roads

Project Name Lime

Highway Old Oregon Trail

County Baker

Contractor Roy L. Houck Sons' Corporation

Address P. O. Box 671, Salem, Oregon 97308

Date June 13, 1969

Contract No. 7185

Prefix 601-1065

F. A. Project No. I-80N-7(25)341

Order No. 5

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done:

Excavate for embankment foundation.

Location by station numbers:

Sta. 620+50 - 621

Estimate of quantities and cost:

Approximately 2,500 Cu. Yd.

Equipment Rental	$1,275.20	Labor	$602.83		
+15%	191.28	+20%	120.57		
Subtotal	$1,466.48	Subtotal	$723.40	Total	$2,189.88

Maximun equipment rate allowable as per A.G.C.-State Agreement. Percentage allowable contractor is in accordance with executed contract for this job. Net effect of this work order is a contract cost increase of $2,189.88.

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")

Embankment foundation when not included in the bid schedule is an extra work item.

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization	$4,178,926.12
Present estimate of project cost, including $2,189.88 for work under this order	$4,073,423
Expected under-run amount	$105,503.12
Expected under-run per cent	2.52

Space to right of this line is for use of Salem Office

Submitted by: /s/ E. S. Thompson Resident Engineer
E. S. Thompson

Approval Recommended: /s/ F. D. Morgan Construction Engineer

Approval Recommended: /s/ Alfred Shirley, Jr. Asst. Division Engineer

Approved: /s/ F. D. Morgan 7-5-69

I-80N-7(25)341

5

7185

RECEIVED
JUN 10 1969
OFFICE OF
STATE HIGHWAY ENGINEER

Form A-105

STATE COPY

G-1P

Contingent upon modification of project agreement if additional funds are required.
JUL 2 1969
Date 1969 By BLBrooks
Title Dist. Engineer
U.S. Bureau of Public Roads

OREGON STATE HIGHWAY DEPARTMENT

Order for State Force Work

APPLYING TO CONTRACT PROJECTS

Order No. 4

Project Name Lime
Date May 23, 1969
Highway Old Oregon Trail
Contract No. 7185
F. A. Project No. I-80N-7(25)341
County Baker
Prefix 601-1065
Account No. 278-04

Description of Work To Be Done: Temporary striping and traffic markers on detours.

Location by Station Numbers: 616 to 638 and 807 to 838+50.

NOTED
F. B. KLABOE

Estimate of Quantities and Costs:

Labor	$ 200.00
Reflectorized Marker Tape	1,500.00
Total	$1,700.00

The net cost effect of this work order is a contract cost increase of $1,700.00.

Explanation: Striping of detours is a contract obligation as set forth in the Special Provisions.

INSTRUCTIONS

Submit a separate order for each piece or kind of state force work to be undertaken. Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs.

Five copies of the order are to be submitted to Salem. After approval by the Assistant State Highway Engineer, one copy will be sent to the Division Engineer and one copy to the Resident Engineer.

Project authorization	$4,178,926.12
Present estimate of project cost, including $ 1,700.00 for work under this order	$4,032,883.
Expected under-run ~~XXXXXXXX~~ (amount)	$ 146,043.12
Expected under-run ~~XXXXXXXX~~ (per cent)	3.49

Space to right of this line for use of Salem Office

Submitted by: /s/ E. S. Thompson
E.S. Thompson
Resident Engineer

Approval Recommended: /s/ John A. Bond
for
Construction Engineer ~~XX~~

Approval Recommended: /s/ Alfred Shirley, Jr.
Ass't. Division Engineer

Approved: /s/ F. D. Morgan
6-10-69
Construction Engineer

C

RECEIVED
MAY 23 1969

(12-67)
UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

Bureau of Public Roads
Box 300
Salem OR 97308
DATE: May 21, 1969

In reply refer to: 08-35-EC

I-80N-7(25)341

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

7185

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Project I-80N-7(16)327
Lime Section - Old Oregon Trail Highway
Pacific Northwest Bell Telephone Line Adjustment

The overrun in costs to relocate the Pacific Northwest Bell Telephone line on the subject project as described in Mr. Preston's May 7, 1969 letter has been reviewed and approved. The authorization for this work is hereby increased to $10,353.98.

5-22-69

Young - Morgan
ASST. STATE HWY. ENGR

RECEIVED
MAY 22 1969
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

RECEIVED
MAY 9 - 1969

**OREGON STATE
HIGHWAY DEPARTMENT**

I-80N-7(25)541
71-44

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

May 7, 1969

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage Street, N. E.
Salem, Oregon 97301

Re: Telephone Line Adjustment
Pacific Northwest Bell Telephone Co.
Lime Section
Baker County
Project No. I-80N-7 (16) 327
Contract No. 7885

Gentlemen:

Attached is one copy of Pacific Northwest Bell Telephone Company's billing for subject section. As noted in the attached correspondence, there is an overrun of $2,914.00 or 39% of the Company's original estimate.

Mr. Webb, District Manager for Pacific Northwest Bell, briefly explained the overrun in his letter dated April 22, 1969. For a more detailed explanation, Mr. Fillmore contacted the Company's engineers in Pendleton who prepared the original estimate. They indicated most of the overrun was due to their not anticipating the actual time necessary to splice from open wire to cable where the circuits must remain in service. During the time this work was performed more of the circuits were in use than was originally estimated. This caused delays, waiting for a line to clear before it could be spliced; thus labor costs were three times those anticipated. This, of course, increased overhead and equipment costs.

Paragraph 3 of Mr. Webb's above mentioned letter refers to a field change. At the time of this change it was estimated the additional contract cost would not exceed 10% so the Company was advised to proceed without submitting a detailed estimate of the increased cost.

The Company did not anticipate this overrun during construction. One of the factors is that it was performed by a "construction crew". It appears that there is a breakdown in communications within the Company. This has been pointed out to their management and we have been assured it will not happen again.

Other factors as set out by Mr. Webb are self explanatory.

The overrun was caused by circumstances not originally anticipated as set out above. Your approval to increase the authorization to $10,353.98 is requested.

Very truly yours,

F. D. Morgan
Construction Engineer

By:

T. W. Litchfield
Utilities Liaison Engineer

PGP:ss
Enclosure

cc: F. B. Klaboe
V. L. Gallagher (2)

RECEIVED
MAY 8 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
MAY 5 - 1969

OREGON STATE
HIGHWAY DEPARTMENT
~~Ontario, Oregon~~
April 25, 1969

I 80N-7185 341
718

NOTED
R. L. PORTER

Porter
By Asst. State Hwy. Engr.
Info

Mr. Roy L. Houck Jr.
President
Roy L. Houck Sons' Corp.
P. O. Box 671
Salem, Oregon 97308

RE: Lime Section
Contract No. 7185

Dear Roy:

Your proposed August 1st date for the start of crushing appears to be much too late. Superintendent Lemen estimates the grading will be complete June 15 and your proposal will result in a six week period of no progress on surfacing.

We doubt that this plan will complete the project by October 19, the date the project time expires.

Please submit your schedule of operations that will complete the project by this date.

Very truly yours,

E S Thompson
E. S. Thompson
Resident Engineer

cc:
F. D. Morgan ✓
A. F. Parson

Routing
2 Morgan MM
3 Decker
1 Bond
5 Walker
Boehme
Johnson
4 Glenn
Litchfield
Stein
EG

RECEIVED
APR 23 1969
CONSTRUCTION DIVISION

4/28/69
Copy to Klaboe
per John Bond
FW

RECEIVED
APR 29 1969
OFFICE OF
STATE HIGHWAY ENGINEER

I 80N-7(25)341
7185

RECEIVED
MAY 9 - 1969
OFFICE OF
STATE HIGHWAY ENGINEER

STATE COPY

APPROVED
Contingent upon modification of C
project agreement if additional
funds are required.
Date APR 10 1969 By
Title Dist. Engineer
U.S. Bureau of Public Roads

Form E-40 G-1P

OREGON STATE HIGHWAY DEPARTMENT

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

Project Name	Lime	Date	April 15, 1969
Highway	Old Oregon Trail	Contract No.	7185
County	Baker	Prefix	601-1065
Contractor	Roy L. Houck Sons' Corporation	F. A. Project No.	I-80N-7(25)341
Address	P. O. Box 671, Salem, Oregon 97308	Order No.	4

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done:

Excavate for embankment foundation.

NOTED
F. B. KLABOE

Location by station numbers:

Sta.676 to 679

Estimate of quantities and cost:

Approximately 4,500 Cu. Yds.

Equipment Rental	$5,500.00	Labor	$2,300.00	
+15%	825.00	+20%	460.00	
Sub Total	$6,325.00	Subtotal	$2,760.00	Total $9,085.0

Maximum equipment rate allowable as per AGC - State Agreement. Percentage allowed contractor is in accordance with executed contract for this job. Net effect of this work order is a contract cost increase of $9,085.00.

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")

Contractor's quote by price agreement could not be justified.

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization	$4,178,926.12
Present estimate of project cost, including $9,085.00 for work under this order	$4,038,076
Expected under-run amount	$140,850.12
Expected under-run per cent	3.37

Space to right of this line is for use of Salem Office

Submitted by: /s/ E. S. Thompson
E. S. Thompson Resident Engineer

Approval Recommended: /s/ John A. Bond
for Construction Engineer

Approval Recommended: /s/ Alfred Shirley, Jr.
Ass't. Division Engineer

Approved: /s/ F. D. Morgan 5-9-69

SP*23577-734

C

RECEIVED
APR 9 - 1969
[illegible]

I 80N-7(25)341
7185

April 9, 1969

Oregon State Highway Commission

Gentlemen:

There will be presented to you at the meeting of April 22 an agreement with the Union Pacific Railroad Company and Roy L. Houck Sons' Corporation covering the use of an existing, private access road across the railroad at grade on the Lime Section of the Old Oregon Trail Highway in Baker County.

This agreement provides for the Railroad to be reimbursed for all its expenses caused by the use of this crossing. Since the crossing is being used for the contractor's convenience, all liability and expenses will be borne by the contractor. There will be no cost to the State.

The agreement has been executed by the contractor and we recommend your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

R. L. Porter
Deputy State Highway Engineer

cc: Floyd Query
F. B. Klaboe
Victor D. Wolfe
C. H. Maison
Jack Sollis
F. D. Morgan
T. W. Litchfield
A. F. Parson

RECEIVED
APR 1 1969
FOR FILING

I 80N-7 (25) 341 Klaboe

7185

Memorandum

U.S. DEPA [illegible] ORTATION
FEDERAL HIGHWAY ADMINISTRATION
477 Cottage Street, NE
Salem, Oregon 97301

DATE: March 25, 1969

In reply refer to: 08-35-DA-3

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

Morgan
By Asst. State Hwy. Engr.
3-27-69

SUBJECT: Oregon Project I-80N-7(25)341
Old Oregon Trail
State Force Order No. 3
Total Estimated Amount of the Order: $1,379.30
Federal Participation: $1,272.00

Reference is made to Mr. Bond's letter of March 18, 1969, concerning the subject order.

We are approving the use of State Forces as being in the public interest under provision of PPM 21-6.2 for the following reasons:

1. The contractor is neither properly equipped nor staffed to perform the work contemplated under the order.
2. The State has the necessary special striping equipment and trained personnel to perform the work most economically.

Striping to be performed should be in conformity to the requirements of the Manual on Uniform Traffic Control Devices and will thus be eligible for participation under the provisions of Paragraph 6 of PPM 21-15.

Federal participation will be based on the agreed unit price for striping. The estimated total costs of the work to be done under this order is $1,379.30 with Federal participation of $1,222.00.

Enclosure

RECEIVED
MAR 26 1969
OFFICE OF
STATE HIGHWAY ENGINEER

NOT
F. B. K

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

OREGON STATE HIGHWAY DEPARTMENT

Order for State Force Work

APPLYING TO CONTRACT PROJECTS

[illegible] if additional funds are req[illegible]
Date MAR 5 1969 by
Title Dist. Engineer
U.S. Bureau of Public Roads

Order No. 3

Project Name Lime
Date February 26, 1969
Highway Old Oregon Trail
Contract No. 7185
F. A. Project No. I-80N-7(25) 341
County Baker
Prefix 601-1065
Account No. 278-03

Description of Work To Be Done: Paint traffic lines on new construction.

Location by Station Numbers: Throughout the project limits as required.

Estimate of Quantities and Costs:

0.8 miles 4" Barrier Line at $57--------------	$ 45.60
7.7 miles 4" Skip Line at $32 ----------------	$ 246.40
15.9 miles 3" Shoulder Line at $47-------------	$ 747.30
Incidental Interchange Pavement Legends at $34 per hour for 10 hours-	$ 340.00
	$1,379.30

Explanation: The contractor is not equipped to perform this work and it can be better performed by the state.

INSTRUCTIONS

Submit a separate order for each piece or kind of state force work to be undertaken. Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs.

Five copies of the order are to be submitted to Salem. After approval by the Assistant State Highway Engineer, one copy will be sent to the Division Engineer and one copy to the Resident Engineer.

Project authorization	$4,178,926.12
Present estimate of project cost, including $1,379.30 for work under this order	$4,013,973
Expected under-run ~~XXXXXXXX~~ (amount)	$ 164,953
Expected under-run ~~XXXXXXXX~~ (per cent)	3.95

Space to right of this line for use of Salem Office

Submitted by: /s/ E. S. Thompson
Resident Engineer

Approval Recommended: /s/ John A. Bond
for Construction Engineer ~~XXXXXXXXXXXX~~

Approval Recommended: /s/ H. S. Coulter
Asst. Division Engineer

Approved: /s/ F. D. Morgan
Construction Engineer ~~XXXXXXXXXXXXXXXXXX~~

State Printing

RECEIVED
MAR 14 1969

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

March 12, 1969

Union Pacific Railroad Company
2525 North Larrabee Avenue
Portland, Oregon 97227

ATTENTION: Mr. W. G. Johnson

Re: Burnt River Channel Changes
Lime Section
Old Oregon Trail Highway
Baker County
Project No. I-80N-7 (25) 341
Contract No. 7185
YOUR FILE: D 315-2-129

Gentlemen:

This is in reply to your letter of February 6, 1969 concerning this subject.

This is to advise that the State will maintain all channel changes made as a portion of this contract. This will include the Burnt River Channel Changes between Railroad Bridges 385.19 and 385.39 and between Railroad Bridges 385.95 and 386.62. We will also install additional rock slope protection material on the channel change at Bridge 386.62 as you requested in your letter of December 27, 1968.

Very truly yours,

F. D. Morgan
Construction Engineer

By: ORIGINAL SIGNED BY
T. W. LITCHFIELD
T. W. Litchfield
Utilities Liaison Engineer

TWL:ss

cc: F. B. Klaboe - w/copy of UPRR letters dated 2-6-69 and 12-27-68
A. F. Parson
E. S. Thompson
H. M. Fillmore

RECEIVED
MAR 13 1969
OFFICE OF
STATE HIGHWAY ENGINEER

UNION PACIFIC RAILROAD COMPANY
TRANSPORTATION DIVISION
DEPARTMENT OF OPERATION

W. G. JOHNSON
SUPERINTENDENT
OREGON DIVISION

2528 NO. LARRABEE AVE.
PORTLAND, OREGON 97227

FEBRUARY 6, 1969

(File Ref. D 315 - 2 - 129)

Mr. F. D. Morgan,
Construction Engineer
Oregon State Highway Department
Salem, Oregon 97310

Atten: Mr. T. W. Litchfield,
Utilities Liaison Engineer

Routing
Morgan
Decker
Bond
Walker
Boehme
Johnson

RECEIVED
[illegible]
CONSTRUCTION
DIVISION

Dear Sir:

Lime Section
Old Oregon Trail Highway - Baker County
Proj. I-80N-7(25)341, Contract No. 7185

Kindly refer to your letter of January 6 advising work on channel change of the Burnt River southerly of Railroad Bridge 385.39 in connection with the referenced project will be performed to the Railroad's satisfaction and State will maintain.

As informed in recent discussions between our respective engineering representatives, we are not completely happy with the riprap protection provided on this channel change. Nevertheless, if it is understood that the State will maintain the Burnt River channel, including riprap, at no expense to the Railroad, up to Railroad Br. 385.39, and will likewise maintain the Burnt River channel southerly of our track up to Railroad Br. 386.62 it will be satisfactory to leave the riprap at Br. 385.39 as placed by State's Contractor. Will you please advise regarding State's willingness to execute an agreement to this effect?

We will appreciate, however, installation of riprap on the channel change at Br. 386.62 in line with our letter of December 27.

Yours very truly,

W. G. Johnson

COPY TO H S COULTER — YOUR COMMENTS, PLEASE.
E S THOMPSON
H M FILLMORE

L

UNION PACIFIC RAILROAD COMPANY
TRANSPORTATION DIVISION
DEPARTMENT OF OPERATION

W. G. JOHNSON
SUPERINTENDENT
OREGON DIVISION

2525 NO. LARRABEE AVE.
PORTLAND, OREGON 97227

DECEMBER 27, 1968

File Ref. D 315 - 2 - 129

Mr. F. D. Morgan,
Construction Engineer
Oregon State Highway Department
Salem, Oregon 97310

Atten: Mr. T. W. Litchfield,
Utilities Liaison Engineer

Dear Sir:

Lime Section, Old Oregon Trail Highway
Baker County - Contract Number 7185
Project I-80N-7(25)341

This is to confirm recent conversation on December 16 with Mr. G. M. Tabor in my office concerning channel changes in the Burnt River Canyon, being constructed by the State near Lime, Oregon, under the captioned project.

In line with past practice the Railroads expect the State to assume all responsibility for construction and maintenance on the channel changes. However, to protect railroad operations, we request the State to install a 3' blanket of rock meeting State's riprap specifications on channel change slopes next to our tracks where said slopes are located on Railroad right of way.

Will you kindly advise regarding the State's willingness to progress its channel change work on this basis?

Very truly yours,
W. G. Johnson

Routing
Morgan
Decker
Bond
Walker
Boehme
Johnsen

RECEIVED
DEC 30 1968
CONSTRUCTION DIVISION

[illegible]
Swan
Glenn
Litchfield
Gallagher
Stein

Form E-30

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APR 2 1969
OFFICE OF
STATE HIGHWAY ENGINEER

3
I-80N-7(25)341
7185

STATE COPY

G-1P

REGON STATE HIGHWAY DEPARTME

project agreement if additional funds are required.
FEB 28 1969
Date
Title Dist. Engineer
U.S. Bureau of Public Roads

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

Project Name Lime
Date March 3 1969
Highway Old Oregon Trail
Contract No. 7185
County Baker
Prefix 601-1065
Contractor Roy L. Houck Sons' Corporation
F. A. Project No. I-80N-7(25)341
Address P.O. Box 671, Salem, Oregon 97308
Order No. 3

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done: Pioneer and Slope for Slide Correction, Perform required Clearing and pipe springwater out of work area.

NOTED
F. B. KLABOE

Location by station numbers: 700+00 to 702+50
724+50 to 725+50

Estimate of quantities and cost:

Equipment Rental	$10,080.00	Labor	$3,360.88
Plastic Tubing	81.90	+ 20%	672.18
	$10,161.90	Subtotal	$4,033.06
+15%	1,524.29		
Subtotal	$11,686.19	Total	= $15,719.25

Maximum equipment rates allowable as per A.G.C.-State agreement. Percentage allowed contractor is in accordance with executed contract for this job.

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")
In accordance with Standard Specification Section 102-3.16.

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

		Space to right of this line is for use of Salem Office
Project authorization	$4,178,926.12	
Present estimate of project cost, including $15,719.25 for work under this order	$4,034,373	
Expected under-run ~~over-run~~ amount	$144,553.12	
Expected under-run ~~over-run~~ per cent	3.46	

Submitted by: /s/ E. S. Thompson
E. S. Thompson
Resident Engineer

Approval Recommended: /s/ John A. Bond
for Construction Engineer

Approval Recommended: /s/ H. S. Coulter
Ass't. Division Engineer

Approved: /s/ F. D. Morgan 4-2-69

RECEIVED
JAN 16 1969

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

I-80N-7 [illegible]) 341

January 14, 1969

Union Pacific Railroad Company
2525 North Larrabee Avenue
Portland, Oregon 97227

ATTENTION: Mr. W. G. Johnson

Re: Access Road Crossing
Lime Section
Old Oregon Trail Highway
Baker County
Project No. I-80N-7 (25) 341
Contract No. 7185
YOUR FILE: D 315-2-129

Gentlemen:

Our contractor for this project, Roy L. Houck Sons' Corporation, advises that they wish to obtain a permit to use the existing private crossing at the Lime Plant. This appears to be the existing 24-foot plank road crossing at Railroad Station 6449+52, as shown on your Exhibit "A" dated August 30, 1968.

You will find attached a copy of Mr. Lambie's letter to our Mr. Thompson dated January 3, 1969, describing the use intended of this crossing. If this is satisfactory, please prepare the usual haul road agreement for this crossing.

Very truly yours,

F. D. Morgan
Construction Engineer

By: ORIGINAL SIGNED BY
T. W. LITCHFIELD

T. W. Litchfield
Utilities Liaison Engineer

TWL:ss
cc: Roy L. Houck Sons' Corporation

F. B. Klaboe
A. F. Parson
E. S. Thompson
H. M. Fillmore

RECEIVED
JAN 15 1969
OFFICE OF
STATE HIGHWAY ENGINEER

JAN 7 - 1969

I-80N-7(25)341
17

**OREGON STATE
HIGHWAY DEPARTMENT**

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

January 6, 1969

Union Pacific Railroad Company
2525 North Larrabee Avenue
Portland, Oregon 97227

ATTENTION: Mr. W. G. Johnson

Re: Rock Channel Protection
Burnt River Channel Change
Lime Section
Old Oregon Trail Highway
Baker County
Project No. I-80N-7 (25) 341
Contract No. 7185
YOUR FILE: D 315-2-129

Gentlemen:

This is in reply to your letter of December 27, 1968 regarding the installation of rock channel protection material in the channel change of the Burnt River on the above-captioned project.

On Friday, December 20, 1968, Mr. R. A. Nichols of the Bureau of Public Roads, your Mr. K. W. Workman (and our Messrs. H. S. Coulter and E. S. Thompson) met and discussed the subject at the site. Mr. Workman advised that if we would use the larger material shot from the cut at Highway Station 705, the Railroad would be adequately protected. The contractor has been so instructed, and the work will be performed to your satisfaction. The State will also assume the responsibility for maintenance of this channel change after its completion.

Very truly yours,

F. D. Morgan
Construction Engineer

By: ORIGINAL SIGNED BY
T. W. LITCHFIELD
T. W. Litchfield
Utilities Liaison Engineer

TWL:ss

cc: F. B. Klaboe (w/copy of UPRR letter)
A. F. Parson "
E. S. Thompson "
H. M. Fillmore "

RECEIVED
JAN 6 1969
OFFICE OF
STATE HIGHWAY ENGINEER

UNION PACIFIC RAILROAD COMPANY
TRANSPORTATION DIVISION
DEPARTMENT OF OPERATION

W. G. JOHNSON
SUPERINTENDENT
OREGON DIVISION

2525 NO. LARRABEE AVE.
PORTLAND, OREGON 97227

DECEMBER 27, 1968

File Ref. D 315 - 2 - 129

Mr. F. D. Morgan,
Construction Engineer
Oregon State Highway Department
Salem, Oregon 97310

Atten: Mr. T. W. Litchfield,
Utilities Liaison Engineer

Dear Sir:

Lime Section, Old Oregon Trail Highway
Baker County - Contract Number 7185
Project I-80N-7(25)341

This is to confirm recent conversation on December 16 with Mr. G. M. Tabor in my office concerning channel changes in the Burnt River Canyon, being constructed by the State near Lime, Oregon, under the captioned project.

In line with past practice the Railroads expect the State to assume all responsibility for construction and maintenance on the channel changes. However, to protect railroad operations, we request the State to install a 3' blanket of rock meeting State's riprap specifications on channel change slopes next to our tracks where said slopes are located on Railroad right of way.

Will you kindly advise regarding the State's willingness to progress its channel change work on this basis?

Very truly yours,
W. G. Johnson

Routing
Morgan M
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RECEIVED
DEC 30 1968
CONSTRUCTION
DIVISION

Peate
Swan
Glenn
Litchfield
Gallagher
Stein

RECEIVED
DEC 20 1968

I-80N-7( )5411
7125

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

F. B. [illegible]

SUBJECT: Langley Property
Weatherby-Line Section

To: [illegible] the Files

[illegible]cember 18, 1968, a meeting was held at the Langley ranch house to discuss the proposed relocation of the Weatherby-[illegible] through su[illegible] property. Those attending were [illegible], owner; David C. Silven, attorney; William Snell [illegible] Dixon, Right of Way Department; and Scott Coulter [illegible] Hall, Construction and Design Sections.

The owner's concern was in re-establishing irrigation and access to the cultivated fields to enable him to continue [illegible] of his ranch. It was determined that irrigation [illegible] gravity system can be accomplished in a manner satisfactory to the owner at an estimated cost of $7,000 for two [illegible] plus incidental work in ditching and dam construction. A total cost for this work was not estimated.

The owner expressed the opinion that the problem of access could be solved by doing considerable road construction over his property. He proposed to do this with his [illegible] equipment.

The proposed highway cut through the point near Station 555 [illegible] considerable discussion. The Design Section antici[illegible] the use of 30 foot width benches separated by 3/4:1 slopes [illegible] cut. It was the owner's request that he be permitted [illegible] one of these benches as part of an access road as an alternate to construction of a longer access road over rough terrain.

Mr. Coulter and Mr. Hall pointed out that while the benched construction is planned, that [illegible] condition of the cut could not be determined prior to construction and that it is doubtful that the benches could be left suitable for an access road. It was also stated that the Highway Department could make no commitments to furnish or maintain such an access road through this cut.

Mr. Silven asked the use of one of the benches if it proved suitable for a road after construction. The problem of maintenance was pointed out to him as well as the Federal access requirements. He asked that he be permitted to make a proposal that would relieve the state of any responsibility of any kind and provide access for maintenance of the cut by state forces. He was told that such a proposal would be taken under consideration if it were submitted.

The meeting was adjourned after Mr. Silven stated that this point of access was the only question left unresolved and that he had a better understanding of the situation than he had before the meeting.

Frank L. Hall
Frank L. Hall
Assistant Design Engineer

FLH:ak

cc: F. D. Klaboe
H. S. Coulter
William Snell
Dave Moering
Frank McKinney

RECEIVED
DEC 24 1968
OFFICE OF
STATE HIGHWAY ENGINEER

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DEC 1 9 1968
FOR FILING

I-80N-7(25)341
7185

December 10, 1968

2567

Banta, Silven and Young
Law Offices
1950 Third Street
Baker, Oregon 97814

Attention Mr. David C. Silven

Gentlemen:

I have delayed answering your letter making inquiries in regard to irrigation and access facilities for the Mildred E. Langley property (lying north of the Oregon-Portland Cement Company at Lime in the Burnt River Canyon) until additional engineering studies could be made following your visit with Frank Hall, Assistant Design Engineer.

The cost of irrigation pipes under the highway near Station 455 is not the determining factor involved. The impracticability of access to the fields opposite Station 475 after the highway is constructed eliminates the need for irrigation. Burnt River is still accessible to the property for any use other than gravity irrigation.

The second field opposite Stations 515 to 520 cannot be served by a gravity ditch along our roadbed for two reasons. First, irrigation facilities within the operating right-of-way of our interstate highway are not permitted under federal controls. Second, the highway ditch near Station 505 (elevation 2297.5) is very little lower than Burnt River (elevation 2300± water surface) opposite Station 446 making gravity flow using any ditch other than the roadbed ditch impractical. Here the river is also available for purposes other than gravity irrigation.

Irrigation pipes under the roadbed at Engineer's Station 605 would transport water diverted from Burnt River from a location not accessible from the highway side. If access from the landowner's side is practical, the pipes could be installed at an estimated cost of $3,500.

Your last question involving an access road around the hill at Station 555 has been given a reappraisal since your Salem visit to determine if such a road is feasible. During your visit you were shown roadbed cross sections extending several hundred feet up the hill, eliminating the possibility of a road. Another field examination was made to determine whether these slopes could be placed on a steeper angle. The engineer's report stated that the material could be expected to stand on steeper slopes if broken up with benches to catch the falling rocks. This design will be used through this point. However, experience has shown that these benches are often subject to fallouts and cannot be used for a private road for this reason, as well as being in violation of federal regulations governing right-of-way for freeways. It is the opinion of our Design Engineer that such a road is not feasible.

I am enclosing the platted sections through this point that you requested. I hope this letter has answered your questions.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

F. B. Klaboe
Assistant State Highway Engineer

cc: Forrest Cooper
R. L. Porter
Victor D. Wolfe - FBK 2567
D. J. Barbee
D. H. Moehring
A. F. Parson

FLH:bdr srb

Enc.

Original to be hand delivered by Frank Hall 12-12-68.

DRAFT FOR MR. KLABOE'S CONSIDERATION October 14, 1968
File No. 37114 - Langley
Oxman - Benson Creek Section
Old Oregon Trail Highway
Baker County

Oregon State Highway Commission

Gentlemen:

Attorney David C. Silven of the Baker law firm of Banta, Silven & Young has requested an appearance before you on November 12 in behalf of Mrs. Harry Langley, a widowed ranch owner.

The Langley ranch, lying north of the Oregon-Portland Cement Company at Lime in Burnt River Canyon, contains approximately 2,675 acres of range land and approximately 200 acres of improved land [of which 56 acres are presently being irrigated or could be irrigated from the river]. The State wishes to acquire approximately 29 acres in fee and approximately 9 acres in easements.

Two appraisals have been made, one by a staff man and one by a local fee appraiser. Both appraisers have had years of experience in appraising ranch properties. The appraisals and the State's offer is $13,650. More than half this figure represents damages to the remaining property.

In his September 27, 1968, letter to this Department, Attorney Silven has requested an appearance before you regarding the following items:

1. He states the $13,650 figure is unacceptable, as he feels Mrs. Langley's total damages are from $40,000 to $50,000.
2. He wants irrigation tubes placed under the highway at Station 455 and at Station 605.

   At Station 455 there is a 10-acre field that was irrigated many years ago but has not been irrigated as of late. Even though the water could be re-established here, physical access would be impractical for farm operations. After the freeway has been constructed, the tract will be accessible only by horseback or jeep. To build a frontage road in this rough country would cost many times the worth of the land.

   At Station 605 a gravity irrigation system could be re-established by installing a culvert under the highway; however, the point of diversion in Burnt River is landlocked [no reasonable physical access]. The State's agent offered to recommend that the tube be installed under the highway providing Attorney Silven would waive damages caused by landlocking the point of diversion. Attorney Silven would not agree. Apparently, he wants both the tube and the damages.
3. He wishes an easement reserved to the Langley ranch to allow for installation at some future time of an

irrigation pipe around a steep hill from Station 500 to Station 513. This would have to be done next to the highway shoulder to work by gravity force.

4. Attorney Silven also wishes to reserve an easement for an access road around a very steep hill from Station 551 to Station 572. This easement would have to be along the main-traveled lanes, not over the top next to the right-of-way line.

Items 3 and 4 cannot be allowed within the right of way limits on Interstate freeways.

Perhaps, Mr. Silven will not be so demanding of you.

Very truly yours,

Forrest Cooper
State Highway Engineer

F. B. Klaboe
Assistant State Highway Engineer

FBK-KAC:JP
cc K. A. Chatwood

LAW OFFICES
BANTA, SILVEN & YOUNG
1950 THIRD STREET
BAKER, OREGON 97814
TELEPHONE 523-4442

HAROLD BANTA
DAVID C. SILVEN
THOMAS F. YOUNG

NICHOLS & HALLOCK
1919-1922
NICHOLS, HALLOCK & DONALD
1923-1929
HALLOCK, DONALD & BANTA
1930-1945
HALLOCK, DONALD, BANTA & SILVEN
1946-1950
HALLOCK, BANTA, SILVEN & HORTON
1951-1954
BANTA, SILVEN & HORTON
1955-1959
BANTA, SILVEN, HORTON & YOUNG
1960-1962

October 23, 1968

Mr. Floyd Query, Secretary
Oregon State Highway Commission
Highway Building
Salem, Oregon 97310

Dear Sir:

Thank you for your letter of October 10th, relative to the Mildred E. Langley condemnation.

We might be able to avoid the time and expense of a personal appearance before the Commission, if certain information could be furnished to us at this time.

Will you advise us of the estimated cost of the installation of the irrigation pipes under the highway near Engineer Station 455 and 605?
[illegible]

Is there some legal or practical reason Mr. Langley could not have the easement to install the irrigation pipe around the hill from Engineer Station 500 to about 513?
Road [illegible] 2275

515-520
2272

How would it adversely affect the highway to permit Mrs. Langley to build a road opposite Engineer Station 555 to enable her to move farm machinery around the hill? Is there some regulation that prevents this?

Very truly yours,

David C. Silven

DCS:bb

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OCT 24 1968
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
DEC 26 1968
STATE FORCES NOT INVOLVED

Form A-106-1M

7185

STATE COPY

Contingent upon modification of project agreement if additional funds are [illegible]
Date [illegible] 1968
Div. Engineer
U.S. Bureau of Public Roads

G-1P

OREGON STATE HIGHWAY DEPARTMENT

Order for State Force Work

APPLYING TO CONTRACT PROJECTS

Order No. 1

Project Name Lime

Date December 6, 1968

Highway Old Oregon Trail

Contract No. 7185

F. A. Project No. I-80N-7(25)341

County Baker

Prefix 601-1065

Account No. 274-01

Description of Work To Be Done: Furnish electrical power for temporary warning signing. (Idaho Power Company)

NOTED
F. B. KLABOE

Location by Station Numbers: 798+50 to 816+05

Estimate of Quantities and Costs: 18 months at $6.00 per month = $108.00

The net cost effect of this order is a contract cost increase of $108.00

Explanation: To transfer cost distribution from Lime-Malheur County Line Section prefix to Lime Section construction prefix.

INSTRUCTIONS

Submit a separate order for each piece or kind of state force work to be undertaken. Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs.

Five copies of the order are to be submitted to Salem. After approval by the Assistant State Highway Engineer, one copy will be sent to the Division Engineer and one copy to the Resident Engineer.

Project authorization	$4,178,926.12
Present estimate of project cost, including $108.00 for work under this order	$4,178,926.12
Expected under-run over-run (amount)	$0
Expected under-run over-run (per cent)	0

Space to right of this line is for use of Salem Office

Submitted by: /s/ E. S. Thompson
E.S. Thompson
Resident Engineer

Recommended: /s/ John A. Bond
for
Construction Engineer

Approval Recommended: /s/ H. S. Coulter
Asst. Division Engineer

Approved: /s/ F. D. Morgan
12-26-68
Construction Engineer

RECEIVED
DEC 10 1968
FOR FILING

Memorandum

U.S. [illegible] TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
477 Cottage Street NE.
Salem, Oregon 97301

DATE: November 29, 1968

In reply refer to: 08-35-EC

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

I-80N-7(25)341
715

FROM : for R. E. Simpson, Division Engineer
Salem, Oregon

Klaboe

SUBJECT: Oregon Project I-80N-7(25)341
Lime Section
Union Pacific Railroad: Channel Change

We concur in the granting of an easement to the Railroad for the construction of a channel change between Stations 701 to 711.

We can see no detrimental effect to the highway, providing stipulations such as the following are made part of the Railroad's easement:

1. Minimum bottom width of 50 feet.
2. Riprap will be done which will conform to the riprap requirements of our project on the highway side of the channel change in all areas where solid rock is not exposed.
3. Guardrail conforming to existing designs be constructed to connect to the guardrail which will be constructed under our project. The guardrail should be constructed to provide a continuous section at a uniform distance from the edge of shoulder.

12-3-68
orig to Young
copy to Mackin
Morgan

RECEIVED
DEC 3 1968
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

RECEIVED
NOV 13 1968

SP*23500-734

I-80N-7
7185

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem 97310
November 7, 1968

To: Mr. G. E. Rohde
Chief Counsel

OFFICE

SUBJECT: Bubbs Ranch-Weatherby Section
Weatherby-Lime Section
Lime Section
Old Oregon Trail Highway
Baker County

Mr. Klaboe has requested that right-of-way acquisitions on the subject sections be completed by January 1, 1969. All files will either be optioned or recommended for condemnation by November 30, 1968. The outstanding files are as follows:

37110-Dyer
37115-Langley
41433-Hosey
41573-Cartwright
42052-Cowan
42053-Reiber
42133-Cartwright
42303-OWR & N (Litchfield handling)
42319-Cartwright
42673-Thompson
42674-Ferney
42675-Smith

If your Division cannot complete filing by January 1, 1969, please advise Mr. Klaboe. Construction plans are not available at this time, and we cannot guarantee you will have them by November 30.

NOTED
F. B. KLABOE

K. A. CHATWOOD
Administrative Right of Way Agent

KAC:AB

cc F. B. Klaboe ✓
A. F. Parson
H. W. Snell

11-12-68

REFERRED TO
Asst. State Hwy. Engr.

RECEIVED
NOV 7 1968
OFFICE OF
STATE HIGHWAY ENGINEER

Form E-206—5M

RECEIVED
NOV 19 1968
FFICE OF
STATE HIGHWAY ENGINEER

7185

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REGON STATE HIGHWAY DEPARTMEN

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

project
funds
Date
Dist. Engineer
U.S. Bureau of Public Roads

Project Name Lime Section

Highway Old Oregon Trail

County Baker

Contractor Roy L. Houck Sons' Corporation

Address P. O. Box 671, Salem, Oregon 97308

Date November 1, 1968

Contract No. 7185

Prefix 601-1065

F. A. Project No. I-80N-7(25)341

Order No. 2

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done: Drill, blast and disperse large rock boulders in embankment area.

NOTED
F. R. KLABOE

Location by station numbers: 695 to 696+50

Estimate of quantities and cost:

Equipment Rental	$1,070.00		Labor	$326.00
Material	50.00		+20%	65.20
	$1,120.00		Subtotal	$391.20
+15%	168.00			
Subtotal	$1,288.00		Total	$1,679.20

The percentages used are in accordance with the executed contract for this project. The net effect of this work order is a contract cost increase of $1,679.20.

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")
This work cannot be performed under the terms of the contract using bid items. Equipment required for this work will be available on the project and the work can be best performed on a force account basis.
Mr. F. D. Morgan and Mr. R. A. Nichols of the Bureau of Public Roads have approved of this work order

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization $4,178,926.12

Present estimate of project cost, including $1,679.20 for work under this order $4,178,926.12

Expected under-run / over-run amount . . . . . . $ 0

Expected under-run / over-run per cent 0

Space to right of this line is for use of Salem Office

Submitted by: /s/ E. S. Thompson
Resident Engineer

Approval Recommended: /s/ Alfred Shirley, Jr.
Ass't. Division Engineer

Approval Recommended: /s/ John A. Bond
for Construction Engineer

Approved: /s/ F. D. Morgan

11-19-68

RECEIVED
NOV 14 1968
FOR FILING

I-80N-7(25)341
7185

NOTED
R. L. PORTER

C

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
October 30, 1968

SUBJECT: State vs. Langley
Our File L-5885

To: Mr. R. L. Porter
Deputy State Highway Engineer

Building

Please find attached hereto a copy of letter received from Dave Silven, attorney for the defendant Langley in the above case.

Mr. Query informs me that Mr. Silven is scheduled to appear before the Commission on November 12th at 10:30 a.m. to discuss access roads, irrigation and other matters pertaining to the Langley case. The case is presently assigned to Bob Holland who is in Pendleton trying the Brogoitti case (Airport Interchange).

I thought you should be advised of this so that if you desire us to get together with Mr. Klaboe before the Commission meeting, we could probably obtain the source of their complaint from the file.

Frank
FRANK C. McKINNEY
Assistant Counsel

FCMcK:ks
attachment

cc: G. E. Rohde
Bob Holland

RECEIVED
OCT 30 1968
OFFICE OF
STATE HIGHWAY ENGINEER

LAW OFFICES
BANTA, SILVEN & YOUNG
1950 THIRD STREET
BAKER, OREGON 97814
TELEPHONE 523-4442

HAROLD BANTA
DAVID C. SILVEN
THOMAS F. YOUNG

NICHOLS & HALLOCK
1919-1922
NICHOLS, HALLOCK & DONALD
1923-1929
HALLOCK, DONALD & BANTA
1930-1945
HALLOCK, DONALD, BANTA & SILVEN
1946-1950
HALLOCK, BANTA, SILVEN & HORTON
1951-1954
BANTA, SILVEN & HORTON
1955-1959
BANTA, SILVEN, HORTON & YOUNG
1960-1962

RECEIVED
OCT 2 8 1968
LEGAL & RIGHT OF WAY

October 23, 1968

Mr. Frank C. McKinney
Assistant Attorney General
Highway Building
Salem, Oregon 97310

Re: Highway Commission vs. Langley

Dear Sir:

We need additional time within which to make appearance on behalf of Mildred E. Langley, who was served in this County October 9th.

We are still hopeful of working out some engineering details and have requested permission to appear before the Highway Commission at its next meeting, which I understand to be November 12th. Will it be satisfactory with you to await the results of that meeting?

Very truly yours,

David C. Silven

DCS:bb

October 18, 1968

Oregon State Highway Commission

Gentlemen:

Attorney David C. Silven of the Baker law firm of Banta, Silven & Young will appear before you on November 12 in behalf of Mrs. Harry Langley, a widowed ranch owner.

The Langley ranch, lying north of the Oregon-Portland Cement Company at Lime in Burnt River Canyon, contains approximately 2,675 acres of range land and approximately 200 acres of improved land (of which 56 acres are presently being irrigated or could be irrigated from the river). The State wishes to acquire approximately 29 acres in fee and approximately nine acres in easements.

Two appraisals have been made, one by a staff man and one by a local fee appraiser. Both appraisers have had extensive experience in appraising ranch properties. The appraisals and the State's offer is $13,650. More than half this figure represents damages to the remaining property.

In his September 27, 1968 letter to this Department, Attorney Silven has requested an appearance before you regarding the following items:

1. He states the $13,650 figure is unacceptable, as he feels Mrs. Langley's total damages are from $40,000 to $50,000.

2. He wants irrigation tubes placed under the highway at Station 455 and at Station 605.

At Station 455 there is a 10-acre field that was irrigated many years ago but has not been irrigated recently. Even though the water could be re-established here at a cost of about $3,500, physical access would be only by horseback or jeep. To build a frontage road in this rough country would cost many times the worth of the land. In addition, water can be pumped from the Burnt River on the same side of the proposed highway as the land to be irrigated is located.

At Station 605 a gravity irrigation system could be re-established by installing a culvert under the highway again at a cost of about $3,500; however, the point of diversion in Burnt River is landlocked (no reasonable physical access). The State's agent offered to recommend that this tube be installed under the highway providing Attorney Silven would waive damages caused by landlocking the point of diversion. Attorney Silven would not agree. Apparently, he wants both the tube and the damages. As in the case under number 1 above, water can be pumped from the river to the lands without a highway undercrossing.

3. He wishes an easement reserved to the Langley ranch to allow for installation at some future time of an irrigation pipe around a steep hill from Station 500 to Station 513. This would have to be done next to the highway shoulder to work by gravity force and cannot be allowed on Interstate right-of-way.

4. Attorney Silven also wishes to reserve an easement for an access road around a very steep hill from Station 551 to Station 572. This easement would also have to be along the main-traveled lanes within Interstate right-of-way and cannot be allowed.

It is our recommendation that Mr. Silven be advised that we cannot justify his requests.

Very truly yours,

Forrest Cooper
State Highway Engineer

bc: Floyd Query
R. L. Porter
F. B. Klaboe
Victor D. Wolfe
G. E. Rohde
D. H. Moehring
K. A. Chatwood
A. F. Parson

EIVED
- 1968

FOR FILING

I-80N-7(2[illegible])341
7185

October 25, 1968

Banta, Silven & Young
Law Offices
1950 Third Street
Baker, Oregon 97814

Attention: Mr. David C. Silven

11-3
Cancelled
11-8-68

Gentlemen:

This morning we received your letter of October 23 in which you make inquiries concerning irrigation facilities pertaining to the Mildred E. Langley property and also a question concerning construction of a road opposite Engineer's Station 555.

These are matters which require engineering consideration, so I am forwarding your letter to the office of the State Highway Engineer.

In the event that you wish to cancel your appearance before the Highway Commission at the meeting November 12, please let us know. If we do not hear from you, we will leave it on the agenda.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

FQ:fkn

cc Mr. R. L. Porter

LAW OFFICES
BANTA, SILVEN & YOUNG
1950 THIRD STREET
BAKER, OREGON 97814
TELEPHONE 523-4442

HAROLD BANTA
DAVID C SILVEN
THOMAS F. YOUNG

NICHOLS & HALLOCK
1919-1922
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1951-1954
BANTA, SILVEN & HORTON
1955-1959
BANTA, SILVEN, HORTON & YOUNG
1960-1962

October 23, 1968

Mr. Floyd Query, Secretary
Oregon State Highway Commission
Highway Building
Salem, Oregon 97310

Dear Sir:

Thank you for your letter of October 10th, relative to the Mildred E. Langley condemnation.

We might be able to avoid the time and expense of a personal appearance before the Commission, if certain information could be furnished to us at this time.

Will you advise us of the estimated cost of the installation of the irrigation pipes under the highway near Engineer Station 455 and 605?

Is there some legal or practical reason Mr. Langley could not have the easement to install the irrigation pipe around the hill from Engineer Station 500 to about 513?

How would it adversely affect the highway to permit Mrs. Langley to build a road opposite Engineer Station 555 to enable her to move farm machinery around the hill? Is there some regulation that prevents this?

Very truly yours,

David C Silven

DCS:bb

RECEIVED
[illegible]

October 10, 1968

Banta, Silven and Young
Law Offices
1950 Third Street
Baker, Oregon 97814

Attention: Mr. David C. Silven

Gentlemen:

In your letter of September 27, in addition to right-of-way matters concerning Mildred E. Langley, you requested an appearance before the Highway Commission.

The next Commission meeting will be held on Tuesday, November 12, in Room 122 of the State Highway Building at the corner of Capital and Center Streets in Salem. We have made the usual reservation of 15 minutes of time for you beginning at 10:30 a.m.

From the information in your previous letter, we understand that you wish to discuss with the Commission the installation of irrigation pipe, construction of an access road, and an easement on the Oxman-Benson Creek Section of I-80N in Baker County. These matters it appears have not been resolved satisfactorily to you at the engineering level.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

FQ:fkm
cc Highway Commission
Forrest Cooper
R. L. Porter
David Moehring

F Query

FORM 2-123

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD

FRED W. HILL, MEMBER
PENDLETON

THADDEUS B. BRUNO, MEMBER
PORTLAND

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

October 7, 1968

Banta, Silven & Young
Law Offices
1950 Third Street
Baker, Oregon 97814

File No. 37114 - Langley
Oxman - Benson Creek Section
Old Oregon Trail Highway
Baker County

Attention David C. Silven

Dear Sirs:

This will acknowledge receipt of your September 27, 1968, letter concerning my letter of September 23, 1968, addressed to Mildred E. Langley.

In view of the wide difference of opinion between the State's appraisal and your client's figure as to the value of the property to be acquired by the State, I can see no hope for an amicable settlement and have asked the Chief Counsel to proceed with the filing of a complaint.

The matters which you mention regarding installation of irrigation pipes and road building have been investigated by our engineering people at La Grande, and I am advised that these features cannot be justified economically and will not be incorporated in the construction contract.

You requested an appearance before the Highway Commission in your letter. I am referring a copy of your letter to the Secretary of the Highway Commission who will correspond with you regarding the scheduling of an appearance before the Commission at a regular meeting.

Very truly yours,

G. E. ROHDE
Chief Counsel

D. H. Moehring
Right of Way Engineer

RECEIVED
OCT 7 1968
OFFICE OF
STATE HIGHWAY ENGINEER

NOTED
FLOYD QUERY

DHM:JP
cc G. E. Rohde
Floyd Query /w/ att.
H. W. Snell

LAW OFFICES
BANTA, SILVEN & YOUNG
1950 THIRD STREET
BAKER, OREGON 97814
TELEPHONE 523-4442

HAROLD BANTA
DAVID C. SILVEN
THOMAS F. YOUNG

NICHOLS & HALLOCK
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BANTA, SILVEN & HORTON
1955-1959
BANTA, SILVEN, HORTON & YOUNG
1960-1962

September 27, 1968

RECEIVED
SEP 30 19[illegible]
LEGAL & RIGHT OF WAY

State Highway Department
Salem, Oregon 97310

Re: File No. R-37114
Oxman-Benson Creek Section Old Oregon Trail Highway
Mildred E. Langley

Gentlemen:

We represent Mildred E. Langley, owner of the lands designated in your letter of September 23, 1968.

We have been instructed to advise you that the offer of $13,650.00 is unacceptable. We feel that her total damages are between $40.000 and $50,000.00.

In any event, however, we would like the privilege of appearing before the Commission at an early date.

In particular we would like the Commission to reconsider Mrs. Langley's request for installation of irrigation pipe under the highway near Engineer Stations 455 #1 and 605. #3

#1 Mrs. Langley will also like an easement so that she can install at her own expense an irrigation pipe around the hill from about Engineer Station 500 to about 513.

#2 At about Engineer Station 555, Mrs. Langley would like permission to build a road so that machinery could be moved around the high point there. This would enable her to retain the field south of that point as farm ground, rather than being forced to convert it to inaccessible pasture. If the access control line fence was moved closer to the travelled portion of the highway, there would be plenty of room outside the fence for this road.

May we hear from you relative to this?

Very truly yours,

David C. Silven

DCS:bb

455+4[illegible]

#3 is possible! if economics can justify the expense/
not justified
6-66 [illegible]

RECEIVED
[illegible]
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
OCT 23 1968
FOR FILING

I-80N-7(35)341
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C

COMMISSION
GLENN L. JACKSON, CHA
MEDFORD
DAVID B. SIMPSON, MEMBER
PORTLAND
FRED W. HILL, MEMBER
HELIX

FLOYD QUERY, SECRETARY
SALEM

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

FORREST COOPER
STATE HIGHWAY ENGINEER
R. L. PORTER
DEPUTY STATE HWY. ENGR.
G. E. ROHDE
CHIEF COUNSEL

October 23, 1968

Roy L. Houck Sons' Corporation
P. O. Box 671
Salem, Oregon 97308

Gentlemen:

We enclose for your files a fully executed copy of the following described contract which was awarded to you by the State Highway Commission:

Contract No. 7185 for grading, paving, structures and signing on the Lime section of the Old Oregon Trail in Baker County.

A copy of this contract is also being sent to the surety on your performance bond.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

wln

Encl.

cc The Aetna Casualty & Surety Company
Bond Department
1201 S. W. 12th Avenue
Portland, Oregon 97205

Updegraff Insurance, Inc.
776 Commercial Street S. E.
Salem, Oregon

bc L. H. Young
F. D. Morgan
I. D. Merchant
A. F. Parson
E. S. Thompson

RECEIVED
OCT 23 1966
FOR FILING

I-80N-7(35)341
7185

COMMISSION
GLENN L. JACKSON, CHAIRMAN
MEDFORD
DAVID B. SIMPSON, MEMBER
PORTLAND
FRED W. HILL, MEMBER
HELIX

FLOYD QUERY, SECRETARY
SALEM

FORREST COOPER
STATE HIGHWAY ENGINEER
R. L. PORTER
DEPUTY STATE HWY. ENGR.
G. E. ROHDE
CHIEF COUNSEL

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

October 23, 1966

Roy L. Houck Sons' Corporation
P. O. Box 671
Salem, Oregon 97308

Gentlemen:

We enclose for your files a fully executed copy of the following described contract which was awarded to you by the State Highway Commission:

> Contract No. 7185 for grading, paving, structures and signing on the Lime section of the Old Oregon Trail in Baker County.

A copy of this contract is also being sent to the surety on your performance bond.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

wln

Encl.

cc The Aetna Casualty & Surety Company
Bond Department
1201 S. W. 12th Avenue
Portland, Oregon 97205

Updegraff Insurance, Inc.
776 Commercial Street S. E.
Salem, Oregon

bc L. H. Young
F. D. Morgan
I. D. Merchant
A. F. Parson
E. S. Thompson

OCT 28 1968

FOR FILING

I-80N-[illegible]

OCT 23 1968

NOTED
R. L. PORTER

34-10

Sp/4 Ivan B. Langley
Co. C 1st Bn. (M) 60th Infantry
172nd Infantry BDE (M)
APO Seattle, Washington 98749

Dear Specialist Langley:

In our continuing review of your inquiry of September 9, 1968, we have again contacted our field personnel in Oregon to determine the status of the acquisition of your family's property.

In this review it was determined that Federal-aid funds are involved in the cost of right-of-way and construction is scheduled for the near future.

The hardships suffered by those whose lands are adversely affected by public works construction projects are always of deep concern to responsible public officials. There will, nevertheless, be areas of reasonable difference of opinion between property owners and the State regarding the basis for compensation. When these differences of opinion cannot be resolved amicably the only recourse is to turn to the proper courts.

There are certain legal limitations upon the actions we can properly take. Interstate and all other Federal-aid highways are State owned and it is their responsibility to establish the location and acquire the necessary right-of-way for the construction of the highway, subject only to our review for compliance with Federal law and regulation.

Our review of your situation revealed no violation of Federal law or regulation and for this reason we have no basis for administrative intervention. We sincerely regret that you have been unable to reach an agreement with the State but hope that a satisfactory solution to your problem will be found.

Sincerely yours,

F. C. Turner

F. C. Turner
Director of Public Roads

NOTED
FORREST COOPER

RECEIVED
OCT 28 1968
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
DEC 1 - 1968
FOR FILING

I-80N-7(25)341
7185

Bid Oct 3

October 14, 1968

Roy L. Houck Sons' Corporation
P. O. Box 671
Salem, Oregon 97308

Gentlemen:

The State Highway Commission on October 14, 1968, accepted your proposal for grading, paving, structure, and signing on the Lime Section of the Old Oregon Trail in Baker County for the sum of $3,483,601 and referred it to the State Highway Engineer with authority to award the contract as soon as approval of the Bureau of Public Roads is received.

Approval was received and the State Highway Engineer later in the day awarded you the project, which has been assigned Contract No. 7185. Enclosed are three copies of this contract. Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The calendar workday count on this contract will begin October 25, 1968.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By
C. W. Head, Assistant Secretary

fkm
Attachments

cc Pacific Builder & Engr., Inc., Seattle, Washington
Daily Journal of Commerce, Seattle, Wn., & Portland
A. F. Parson
E. S. Thompson
Frank Morgan
L. H. Young
I. D. Merchant
C. D. Matthis (SIAC)

ECEIVE
CT 16 1968

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

[illegible]
I-80N-7(25)341
[illegible]

October 14, 1968

El Paso Natural Gas Company
PO Box 1492
El Paso, Texas 79999

Re: Utility Accesses
Old Oregon Trail Highway

ATTENTION: Roland G. Taylor

Gentlemen:

This is in reply to your letter of September 9, 1968 concerning the status of the following projects:

Your File - R/W 62893 - Utility Accesses

Our File - Deadman's Pass - Hilgard Interchange Section
Old Oregon Trail Highway
Umatilla and Union Counties
Project No. I-80N-6 (26) 224

As indicated in our May 24, 1968 letter, the accesses detailed in the proposed agreement submitted with your letter dated August 2, 1965, have been approved by the State and the Bureau of Public Roads. This approval was subject to several special provisions partially covered under GENERAL PROVISIONS of the above-mentioned agreement. In order to clearly establish the Company's rights and obligations at these accesses, it will be necessary to alter the language in the GENERAL PROVISIONS and have our plans approved by the Forest Service. The construction plans for this project will not be completed until next Spring. Revised copies of the agreement will be submitted for your review and approval as soon as the Forest Service has approved our plans.

Your File - R/W 67048

Our File - Olds Ferry - North Ontario Interchange Section
Old Oregon Trail Highway

The State and Bureau of Public Roads have not completed their review of the accesses you requested on this section.

Your File - R/W 63161

Our File - Bubbs Ranch - Malheur County Line Section
Lime Unit
Old Oregon Trail Highway
Baker County
Project No. I-80N-7 (25) 341

Your letter of October 4, 1967, requested access at Station 613+50 on this project. We are unable to grant an access at this crossing since it is being closed. However, we have granted an access opposite Station 655, and our Lime Section plans call for the construction of an access on the Southwesterly side parallel to the Railroad from Station "B" 654+87.57 to your existing access road, as shown on Sheets 4, 4B, and 5 of the Construction Plans submitted to you with our letter dated September 10, 1968. This matter has been discussed in the field by representatives of your Company and it was agreed to be satisfactory.

Mr. John F. Hagemann, our Assistant Director of Permits, by his letter of September 13, 1968, submitted a proposed X-type Permit to you covering this access and your four-inch pipe line crossing at our Station 672.

Further information concerning the status of your above requests will be furnished as it becomes available.

Very truly yours,

F. D. Morgan
Construction Engineer

By:

T. W. Litchfield
Utilities Liaison Engineer

cc: El Paso Natural Gas Company
PO Box 1526
Salt Lake City, Utah

ATTN: Mr. John Viehweg, Division Engineer

F. B. Klaboe
G. W. Ross - ATTN: John F. Hagemann

RECEIVED
OCT 15 1968
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
OCT 23 1968

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C

NOTED
R. L. PORTER

OCT 11 1968

34-10

Sp/4 Ivan B. Langley
Co. C 1st Bn. (M) 60th Infantry
172nd Infantry BDE (M)
APO Seattle, Washington 98749

Dear Specialist Langley:

President Johnson has asked me to thank you for your letter of September 9, 1968.

The Federal Highway Administration is the Federal agency charged with the administration of Federal-aid highway legislation. Route selection, acquisition of right-of-way and construction are the responsibilities of the State, even though Federal funds may participate in the cost. The actual acquisition is by the State or its political subdivision in accordance with State law and procedures.

Our field personnel in Oregon have informed us that no Federal-aid funds are involved in the cost of the right-of-way on this project. However, according to information on record in the State's files the amount offered your mother was determined by the State's reviewing appraiser after he had reviewed the property and the appraisals prepared for the State, and represents the current market value.

The procedures followed by the State were its normal operating procedures and were designed to assure fair treatment to both property owners and taxpayers.

I am sorry that this is not a situation in which I can be of more assistance, but hope that a satisfactory solution to your problem will be found.

Sincerely yours,

F. C. Turner

F. C. Turner
Director of Public Roads

NOTED
F. B. KLABOE

copy to
Rohde
Marking 10-15-68

NOTED
FORREST COOPER

RECEIVED
OCT 15 1968
OFFICE OF
STATE HIGHWAY ENGINEER

604.07 A

Dear Sir:

I wrote you a couple or three years ago about a highway that is going through my folks place. After you wrote them for a while they sort of talked like they would try and do wright but they never did try to settle on any amount.

My father died a little over a year ago and a few mounths after that I was drafted in to the service and I've been in the army for a little over a year now. A few day ago the men for the highway went to my mother and offered her $13,000 for the whole wright away. The ground is all along the river and all but mabby 2 or 3 acres have water wrights on it. In order to get enough land back for the amount they are taking with the water wrights it would cost us 40 to 60,000 dollars. So why would my mother have to take such an unreasonable offer. If it is at all possible could you look into it and see if you could get at least a reasonable offer. The highway is

PR34991

U-S Thirty between Baker Oregon and Huntington Oregon. The place I am talking about is a Lime Oregon and the last of the land they are taking stopes at about Dixie. If you could it would be very much appriecated. If someone can take your land like that and not pay anywhere near what its worth whats the sence of me and people like my self doing what we are if when ever someone wants to build a highway they can just get in and wreck a life time of work. I would appreciat it if you would try and get a deacent offer for the land that is being taking

Yours Truely
Mr & Mrs G Langley

EXECUTIVE SECRETARIAT
FEDERAL HIGHWAY
ADMINISTRATION
1968 SEP 17 AM 11 45
U.S. DEPARTMENT
OF TRANSPORTATION

OFFICE OF THE DIRECTOR
1968 SEP 13 SEP 20 AM 9 10 9 45 AM '68
BUREAU OF PUBLIC ROADS

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7185

UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
477 Cottage Street NE.
Salem, Oregon 97301

DATE: September 23, 1968

In reply refer to: 08-35.1/335

Moehring

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Citizen Inquiry - Interstate 80N, Baker County
(Sp/4 Ivan B. Langley to U. S. Government)

Enclosed is an inquiry from Sp/4 Ivan B. Langley written in connection with properties owned by his parents and located between Huntington and Baker. A copy of Mr. Turner's reply is also enclosed.

Mr. Turner has requested that the Division office investigate Specialist Langley's inquiry. Right of Way Officer Leo Quesnel of this office will be checking with your Right of Way Division for information in order to prepare a reply.

Enclosures
Ltr (undated), Langley to U. S. Govt.
Ltr, 9-19-68, Turner to Langley

Orig to Moehring 9-23-68

RECEIVED
SEP 24 1968
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

SEP 19 1968

34-10

Sp/4 Ivan B. Langley
Co. C 1st Bn. (M) 60th Infantry
172nd Infantry BDE (M)
APO Seattle, Washington 98749

Dear Specialist Langley:

The Bureau of Public Roads is the Federal agency charged with the administration of Federal-aid highway legislation. For this reason your letter of September 9, 1968, addressed to the Department of Interior concerning the acquisition of your family's property for highway purposes has been referred to us for reply.

The details relative to your problem are not available in Washington. Consequently, we are sending a copy of your letter to our field personnel in Oregon requesting that they check into the situation and reply directly to you.

Sincerely yours,

F. C. Turner
Director of Public Roads

cc Public Roads

Dear Sir:

I would like to know if you could [illegible] [illegible] [illegible]. The [illegible] [illegible] [illegible] of [illegible] [illegible]. [illegible] highway [illegible] [illegible] that I do not think a person should be paid what it would cost to [illegible] the land from that they [illegible].

The highway is US 30 between Huntington and Baker Oregon. The place I am talking about starts at Lime Oregon and the last of the land they are taking is at Durkee. They offered my mother 13,000 dollars for the whole right of way. Practically all of the land they are taking was [illegible] [illegible] [illegible] for [illegible] to get that type of land back it would cost from 40 to 60 [illegible] dollars. That's with everything considered. So why should my mother have to take such a small offer when it would cost much more. The reason for writing is that I am in the service here and [illegible] is the only way I can think of to get [illegible]. It would be very much appreciated.

Yours truly,

[illegible] B. [illegible]

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7185

September 23, 1968

Oregon State Highway Commission

Gentlemen:

On September 10 we advised you that a permit of entry from the Union Pacific Railroad Company in connection with the Lime Section of I-80N in Baker County would be presented for your approval at the October 1 meeting.

Since that time it became necessary to resolve this matter and we therefore obtained approval from Chairman Jackson on September 19 and Mr. Bruno on September 20. It will be on the agenda for the October 1 meeting for confirmation.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

F. B. Klaboe
Assistant State Highway Engineer

FBK:ms lms
bc: Floyd Query
R. L. Porter
Victor D. Wolfe
F. D. Morgan
L. H. Young
G. E. Rohde
A. F. Parson

RECEIVED
SEP 10 1968

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7185

September 10, 1968

Oregon State Highway Commission

Gentlemen:

On the agenda for the October 1 meeting will appear the matter of signing an entry permit with the Union Pacific Railroad Company in connection with the Lime Section of I-80N in Baker County.

This is the usual Railroad-State agreement which covers a railroad crossing and a longitudinal encroachment. The matter has been one of long negotiation with the Union Pacific, and I recommend that it have your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

RLP:ms lms

bc: Floyd Query
R. L. Porter
F. B. Klaboe
Victor D. Wolfe
F. D. Morgan
L. H. Young
C. H. Maison
G. E. Rohde
A. F. Parson

RECEIVED
SEP 6 - 1968

I-80N-7(25)341
7185

September 5, 1968

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage St. N. E.
Salem, Oregon

Project No. I-80N-7(25)341
Lime Section

Dear Sir:

Your authorization to advertise for bids to be received for the roadway portion of the subject project was given in your letter of July 26, 1968. Subsequently complete revised P.S. & E. documents, adding the Lime Overcrossing Structure, have been submitted to your department, and accordingly we request your authorization to advertise for bids to be received October 3, 1968, based on the revised P.S. & E. documents.

Compliance with paragraph 6c and 16 of PPM 21-6.3 has been met concerning Equal Employment Opportunity and Product Selection, and the specifications and proposal contain certifications conforming to Mr. J. M. O'Conner's memorandum of 2-23-68 in regard to nonsegregated facilities.

In compliance with IM 21-5.63, the Fish and Game Commissions have approved the data and did not recommend that any special measures should be taken other than a normal amount of precaution to protect their interests. There are no special measures planned as project expenditures for fish and wildlife protection on the project.

In compliance with Mr. Whitton's circular memorandum of May 25, 1964, concerning the protection or improvements of parks and other outdoor recreational and historical resources, there have been no objections or suggestions made regarding the project.

We are forwarding a supplemental right of way status report dated July 26, 1968, concerning Bureau of Land Management file 37099.

We are also forwarding a supplemental utility status report dated September 5, 1968, concerning the Union Pacific Railroad. Enclosed is a copy of a permit of entry from the railroad dated August 30, 1968. The railroad's approval of our construction plans is dated August 21, 1968. We request a waiver of the 3rd requirement of your letter of July 31, 1968, concerning the plans and estimate of work to be done by the railroad.

The plans and estimate for the railroad work will be forwarded as soon as received, with a request to proceed with the work.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

L. H. Young
Office Engineer

CL:ia

RECEIVED
SEP 12 1968

I-80N-7(25)341
7185

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE
Salem, Oregon 97310
September 4, 1968

SUBJECT: File No. 37114 - Langley
Lime Section
Old Oregon Trail Highway
Baker County

To: Mr. Armand L. Riveness
Condemnation Attorney

OFFICE

I am attaching the above file which is being transferred to Legal today. Mr. Klaboe has informed me that Mr. Cooper and Mr. Simpson, Bureau of Public Roads, wish to contract the Lime Section on the earliest possible date.

We request that, as much as possible, you expedite this file toward condemnation. I would appreciate it if you would call it to my attention when the letter of offer is mailed as I will then ask Mr. Snell to have Mr. Langley contacted at the earliest possible minute.

John R. Oakes
Assistant Right of Way Engineer

JRO:DH
Encl.

cc: F. B. Klaboe
G. E. Rohde
H. W. Snell

B/up

9/5

~~9/4~~

9-12-68
Oakes states they
will file by Oct 3

MK

RECEIVED
SEP 5 1968
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
AUG 27 1968

FOR FILING

I-80N-7(25)341
7185

2450

August 26, 1968

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage Street, N. E.
Salem, Oregon 97301

Dear Sir:

Re: 08-35-DA, Oregon Project I-80N-7(25)341
Lime Section, Old Oregon Trail Highway
Stage Construction - North Huntington
Interchange

Since your letter of August 13, we have reviewed this matter considering detouring instead of stage construction. It is our feeling, however, that the stage construction method as shown on the plans should be used.

Although we have prepared no estimates for a detour, it is apparent from the pattern of the interchange that it would take at least 1,000 feet of roadway for a detour. We do not feel the cost for this would be justified. A detour would make more of a change in alignment than the stage construction plan.

It is our opinion that any delay in paving operations would be minor; three weeks or less. The contractor can pave the entire southbound lanes first and then pave the northbound lanes up to the Huntington Interchange as shown in Stage 1. By the time the outside shoulder is completed on the southbound lanes, the median can be worked. When the right half of the median paving is complete in the interchange area, traffic can follow the Stage 2 pattern and the northbound paving can be completed.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

F. B. Klaboe
Assistant State Highway Engineer

cc: Forrest Cooper
R. L. Porter
Victor D. Wolfe
F. D. Morgan
L. H. Young
A. F. Parson - Enc.

DLT:fw srb

Form FH-121 (4-67)

UNITED STATES GOVERNMENT

Memorandum

KLARGE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
477 Cottage St. NE. - Salem OR 97301

DATE: August 13, 1968

In reply refer to: 08-35-DA

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM For R. E. Simpson, Division Engineer
Salem, Oregon

REFERRED TO
Barbee
By Construction Engineer

SUBJECT: Oregon Project I-80N-7(25)341
Lime Section
Old Oregon Trail Highway
Stage Construction - North Huntington Interchange

Sheet 26 of the plans for this project show details for stage construction near the North Huntington Interchange. It is recommended you give serious consideration to detouring the traffic instead of using stage construction. We believe it would eliminate some confusion which occurs when the traffic pattern is changed during stage construction and would also eliminate a lengthy delay in the paving operations.

orig to Morgan
copy to Young
8-15-68

Routing
Morgan M
Decker
Bond
Barbee
Walker
Glenn
Swan
Pease
Wills
Litchfield
Olson

RECEIVED
CONSTRUCTION DIVISION

RECEIVED
AUG 14 1968
OFFICE OF
STATE HIGHWAY ENGIN

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

RECEIVED
SEP 26 1968

FOR FILING

I-80N-7(25) 3411
7185

4h

MISC. CONTRACTS and
AGREEMENTS No. 3597

August 22, 1968

Baker County Court
Courthouse
Baker, Oregon 97814

Attention: Dennis L. Fuller
County Clerk

[illegible]

Gentlemen:

Attached for your records is a fully executed copy of a throughway agreement pertaining to the construction of the Lime Section of the Old Oregon Trail.

We have retained a fully executed copy for the Commission's files.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

wln
Attachment

cc H. S. Cox
(conformed agreement)

RECEIVED
AUG 22 1968

FORM [illegible]-30 50M 10-65
FOR FILING
I-80N-7(25)341
5185

NOTED
R. L. PORTER

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE
August 21, 1968
Salem, Oregon

SUBJECT: PUX ~~672~~ 671 - SXF 432
Lime Overcrossing
OWRR&N Co.; Union Pacific RR Co.
Baker County

To: R. L. Porter
DEPUTY STATE HIGHWAY ENGINEER

Building

Herewith I hand you a copy of Order No. 44883, issued by the Public Utility Commissioner under date of August 19, 1968, relative to the above-subject matter.

Jack L. Sollis
JACK L. SOLLIS
Utilities & Railroad
Attorney

lf
Attachment

cc:	F. B. Klaboe	(1)
	Ivan Merchant	(1)
	F. D. Morgan	(2)
	E. S. Hunter	(2)
	A. F. Parson	(2)
	R. N. Chase	(3)
	T. W. Litchfield	(1)
	C. K. Ansell	(1)
	G. W. Ross	(1)
	Harold Reynoldson	(1)

RECEIVED
AUG 21 1968
OFFICE OF
STATE HIGHWAY ENGINEER

Order #44883

BEFORE THE PUBLIC UTILITY COMMISSIONER

OF OREGON

SXF - 432

In the matter of the petition of)
the STATE OF OREGON to construct)
a highway crossing above grade) ORDER
across the tracks of Union Pacific)
Railroad Company.)

On December 6, 1967, the State of Oregon (Oregon State Highway Department) filed a petition with the Commissioner for authority to construct a highway-railroad overcrossing under the provisions of ORS 366.205, 763.040 and 763.050.

Attached to the petition are Oregon State Highway Department drawing sheets numbered 19859 and 23509 which set forth the physical details and dimensions concerning the proposed structure and its immediate vicinity.

Petitioner alleges that the persons or parties affected by the proposed overcrossing are the Oregon-Washington Railroad and Navigation Company and the Union Pacific Railroad Company, Lessee, and Baker County.

Copies of the petition and attached drawings and all answers thereto, including revised drawings, subsequently filed in this matter were served upon the above-named parties or their lessee. There was no objection by any party to the granting of the petition as modified by the pleadings.

Due consideration has been given to all representations set forth in the petition and responses thereto. No issues within the purview of ORS 763.080 which would require a public hearing are raised by any railroad company or public body and the delay and expense which would be incurred by the holding of public hearing on this matter appear unjustified. A public hearing will, therefore, not be required.

Based upon the petition, the record herein and field investigation by the Commissioner's staff it is found that:

The applicant herein is a "Public Authority", Union Pacific Railroad Company is a "Railroad" and the intersecting road is a "Highway" as defined in ORS 763.010.

In connection with the new alignment construction of the Old Oregon Trail Highway, the State of Oregon (Oregon State Highway Department) proposes to construct an overcrossing structure over the right-of-way and tracks of the Union Pacific Railroad Company. Both during and after construction, the vertical and horizontal clearances will meet the minimum standards set forth in the Public Utility Commissioner of Oregon's Rules and Regulations. The proposed overcrossing structure will be located in Baker County in S. 27, T. 13 S., R. 44 E., W. M.

Upon completion, the estimated annual average daily traffic on the overcrossing will be 2,150 vehicles with an anticipated increase to 3,750 vehicles per day in 20 years. At the site of the proposed overcrossing, there are 11 freight, four passenger and four helper train movements daily, making a total of 19 train movements.

Applicant proposes that the construction and maintenance of the project be handled and the costs thereof be borne as follows:

THINGS TO BE DONE BY APPLICANT:

(a) Prepare plans and specifications and award a contract or contracts for the construction of the proposed grade separation structure, including county road approaches, and supervise the construction thereof.

(b) Within the boundaries of the railroad easement, excavate the end slope at the southerly end of the structure to conform to the requirements of the railroad for their future track, as shown by the dashed line on Drawing No. 23509.

(c) Finance the construction of said project, including reimbursement to the railroad for its costs incurred in connection therewith.

(d) Upon completion of the project, applicant will maintain the structure and all highway appurtenances thereto, including the cut slope between the easement boundaries and the centerline of the southerly railroad drainage ditch for the future track.

THINGS TO BE DONE BY RAILROAD:

(a) Subject to reimbursement by applicant as set forth in paragraph (c) under THINGS TO BE DONE BY APPLICANT, furnish such preliminary engineering, engineering inspection, watchmen and flagmen services as may be necessary to protect railroad operations during the period of construction of the project.

(b) Remove and protect the signal and communication lines during the same period and replace in final location under the structure upon completion of construction.

(c) At its own expense, maintain the railroad tracks with their appurtenances and facilities, including that area north of the centerline of the southerly drainage ditch to be constructed for the future track.

From the foregoing it is concluded that the petition should be granted. It is therefore

ORDERED that the petition of the State of Oregon (Oregon State Highway Department) be and the same is hereby granted under the following terms and conditions:

1. The construction shall be done in a good and workmanlike manner and in accordance with accepted engineering practices. The construction shall be performed in conformance with the details as shown on the drawings submitted with the petition and above identified;

2. All construction and maintenance work and costs occasioned by the project shall be done, apportioned and borne in accordance with the findings of the Commissioner as hereinabove made and approved; and it is further

ORDERED that the designation 2A-384.34 be assigned to the crossing as a means of its identification in the Commissioner's Catalog of Railroad Crossings in Oregon.

Made, entered and effective AUGUST 19 1968.

Sam R. Haley
Public Utility Commissioner

1

RECEIVED
AUG 16 1968

SP*23611-734

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

I 80N-7(25) 341
7185

Salem, Oregon
August 12, 1968

SUBJECT: Old Oregon Trail Highway
Lime Section
Lime Overcrossing of UPRR
Bridge No. 9354

To: MEMORANDUM TO THE FILES

As per Tom Edwards' instructions, the matter of calling for slope paving instead of the 3' rock blanket shown on the plans for the slope adjacent to the railroad was proposed to Mr. Roy Tokerud of the Bureau of Public Roads.

Mr. Tokerud stated that he was not convinced that it was necessary and that he doubted that the slope paving could be placed as economically as the rock blanket.

As further attempts for approval of the proposed change would involve correspondence including economic justification and might delay the project, and would probably not be approved, no additional request is planned.

ORIGINAL SIGNED
L. L. WALLACE

L. L. Wallace
Chief Bridge Design Engineer

LLW:jr

cc: Tom Edwards
W. J. Hart

NOTED
TOM EDWARDS

RECEIVED
AUG 13 1968
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
AUG 2 - 1968

UNITED STATES GOVERNMENT
Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
477 Cottage St. NE. - Salem OR 97301

DATE: July 31, 1968

In reply refer to: 08-35-EC

I-80N-7[illegible]-11
7185

1 Klaboe
2 Young

TO: Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM: for R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Project I-80N-7(25)341
Lime Section
Union Pacific Railroad Work

The minimum requirements for our unconditional authorization to advertise any portion of the railroad work on this project would include, (1) a permit of entry allowing the contractor's use of the railroad parcel, (2) the railroad's tentative approval of your construction plans, and (3) plans and estimate of work to be done by the railroad. Under paragraph 8 of PPM 30-3 we construe the above three items as the minimum for a proposed railroad agreement.

orig'l Young
8-7-68

RECEIVED
AUG 1 1968
OFFICE OF
STATE HIGHWAY ENGINEER

NOTED
F. B. KLABBE

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

FORM E-123
COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD

FRED W. HILL, MEMBER
PENDLETON

THADDEUS B. BRUNO, MEMBER
PORTLAND

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

RECEIVED
JUL 31 1968

I-80N-7(25) 241
7185

July 29, 1968

NOTED
R. L. PORTER

Mr. Sam R. Haley
Public Utility Commissioner
200 Public Service Building
Salem, Oregon 97310

Re: PUX 671 - SXF 432
Lime Overcrossing
Baker County

Attention: James Ritchie

Dear Sir:

Enclosed is an original together with three copies with revised drawing No. 23509 attached.

I have served Union Pacific Company, Oregon-Washington Railroad & Navigation Company and Baker County, and it would appear to me that upon receipt of an approval from Oregon-Washington Railroad & Navigation Company and Union Pacific Railroad Company as to these revised plans, that the Order could be written.

We would like to advertise a contract on this job in the middle of August and I would appreciate you advising me as to when we might possibly receive an order.

Very truly yours,

G. E. ROHDE
Chief Counsel

By

JACK L. SOLLIS
Utilities & Railroad
Attorney

JLS:lf
Attachment

cc: R. L. Porter
F. B. Klaboe
Ivan D. Merchant
F. D. Morgan
A. F. Parson
T. W. Litchfield

RECEIVED
JUL 30 1968
OFFICE OF
STATE HIGHWAY ENGINEER

JLS:lf
7-29-68

PUX 671

BEFORE THE PUBLIC UTILITY COMMISSIONER OF OREGON

In the matter of the application of the STATE OF OREGON, by and through its State Highway Commission, for authority to construct an overcrossing over the tracks and right-of-way of the OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY and the UNION PACIFIC RAILROAD COMPANY, lessee, known as the LIME OVERCROSSING project in the Southeast Quarter of the Northeast Quarter (SE¼NE¼) of Section 27, Township 13 South, Range 44 East, Willamette Meridian, Baker County, Oregon.	AMENDED APPLICATION SXF No. 432

Comes now the Applicant, State of Oregon, by and through its State Highway Commission and amends its Application as follows:

I

Attached hereto and by this reference made a part hereof, is Drawing No. 23509 which was revised July 24, 1968 which should be substituted for the original Drawing No. 23509 and any prior revisions of said drawing.

II

That Paragraph VI of the Application be amended so that the first sentence will read as follows: "That the proposed structure will have a total length of 502 feet, consisting of 116 feet, 135 feet, 135 feet, and 116 feet reinforced concerete box girder spans.

WHEREFORE, having submitted the above amendments to the Application, Applicant prays for an Order in conformity with the Application, Answer, Reply and Amendments to the Application and for such further Order as may be proper in the premises.

JLS:lf
7-29-68

Dated at Salem, Oregon this 29th day of July, 1968

STATE OF OREGON, by and through
its State Highway Commission

G. E. ROHDE
Assistant Attorney General & Chief
Counsel for the State Highway Commission

By________________________
JACK L. SOLLIS
Utilities & Railroad Attorney

STATE OF OREGON)
) ss
County of Marion)

I, T. C. Roake , being first duly sworn, say that I am Asst. Bridge Engineer for the Oregon State Highway Commission and that the foregoing Amended Application is true as I verily believe.

T. C. ROAKE

Subscribed and sworn to before me this 29th day of July, 1968.

JACK L. SOLLIS
Notary Public for Oregon
My Commission Expires December 19, 1968

I certify that the above is a true and correct copy of the foregoing Amended Application and the whole thereof.

Jack L. Sollis
Utilities & Railroad Attorney

True copies of this Amended Application have been served on Oregon-Washington Railroad & Navigation Company and the Union Pacific Railroad Company by mailing true copies thereof to Randall B. Kester, General Solicitor, Union Pacific Railroad, 727 Pittock Block, Portland Oregon; and also a true copy has been served on Baker County by mailing a true copy thereof to Baker County Board of Comissioners, Baker County Courthouse, Baker, Oregon 97814.

Jack L. Sollis
Utilities & Railroad Attorney

RECEIVED
SEP 10 1968

BUREAU OF PUBLIC ROADS
SUPPLEMENTAL
LETTER OF APPROVAL AND/OR AUTHORIZATION

PROJECT: I-80N-7(25)341

TO: FOR FILE MR. FORREST COOPER STATE HIGHWAY ENGINEER SALEM, OREGON I-80N-7(25)341	SECTION: LIME SECTION - OLD OREGON TRAIL HIGHWAY WORK : GRADE, PAVE, SIGNING AND STRUCTURE COUNTY : BAKER
FROM: R. E. SIMPSON, DIVISION ENGINEER SALEM, OREGON 7785	DATE PS&E APPROVED JULY 26, 1968
	DATE AUTHORIZED --------

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW:

☒ CONSTRUCTION - ADVERTISE FOR BIDS.

○ RIGHT OF WAY.

☒ OTHER (SPECIFY). RAILROAD WORK

○ UTILITY ADJUSTMENT.

○ RIGHT OF WAY INCIDENTALS AND RELOCATION PAYMENTS.

REMARKS AND LIMITS OF AUTHORITY:

REVISED PS&E DOCUMENTS FOR THE SUBJECT PROJECT HAVE BEEN RECEIVED AND ARE HEREBY APPROVED.

THIS LETTER SUPPLEMENTS OUR AUTHORIZATION LETTER OF JULY 26, 1968 WHICH APPROVED PS&E DOCUMENTS FOR GRADING, BASE PCC PAVEMENT AND SIGNING AND AUTHORIZED YOU TO ADVERTISE FOR BIDS ON THESE ITEMS.

THESE PS&E DOCUMENTS HAVE NOW BEEN REVISED TO INCLUDE THE RAILROAD STRUCTURE STATION 660+28.00 TO STATION 665+30.60. YOU ARE NOW AUTHORIZED TO ADVERTISE FOR BIDS ON ALL WORK COVERED BY THESE DOCUMENTS SUBJECT TO THE FOLLOWING CONDITIONS:

1.) THE DETAILED RAILROAD PLANS AND ESTIMATE WILL BE AVAILABLE FOR REVIEW AND APPROVED PRIOR TO OUR CONCURRENCE IN AWARD.

1.) ALL RIGHT OF WAY WILL BE AVAILABLE FOR OCCUPANCY AND USE PRIOR TO OUR CONCURRENCE IN AWARD.

THE RAILROAD SHOULD BE ADVISED NOT TO INCUR ANY COSTS UNDER (1) ABOVE UNTIL THE DOCUMENTS ARE APPROVED.

MR. YOUNG'S SEPTEMBER 5, 1968 REQUEST AND CERTIFYING STATEMENTS ARE ACCEPTED.

A SIGNED COPY OF THE REVISED TITLE SHEET IS RETURNED HEREWITH.

OFFICE USE

9-10-68

REFERRED TO Young
ASST. STATE HWY. ENGR.
Wicke

RECEIVED
SEP 9 1968
OFFICE OF

NOTED
F. B. [illegible]

RECEIVED
JUL 31 1968
FOR FILE

I-80N-7(35)

Klaboe

LETTER OF APPROVAL AND/OR AUTHORIZATION

TO: MR. FORREST COOPER, STATE HIGHWAY ENGINEER SALEM, OREGON	SECTION: LIME SECTION OLD OREGON TRAIL HIGHWAY
	WORK : GRADE, PAVE AND SIGNING
	COUNTY : BAKER

FROM: R. E. SIMPSON, DIVISION ENGINEER SALEM, OREGON	DATE PS&E APPROVED JULY 26, 1968	DATE AUTHORIZED --

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW:

☒ CONSTRUCTION - ADVERTISE FOR BIDS.

○ UTILITY ADJUSTMENT.

○ RIGHT OF WAY.

○ RIGHT OF WAY INCIDENTALS AND RELOCATION PAYMENTS.

☒ OTHER (SPECIFY). AFTER AWARD CONCURRENCE, YOU ARE AUTHORIZED TO PROCEED WITH CONTRACTOR'S FLAGGING SHOWN IN YOUR ESTIMATE IN THE AMOUNT OF $5,000.00 AND TO PROCEED WITH RAILROAD PROTECTIVE SERVICES SHOWN IN YOUR ESTIMATE IN AMOUNT OF $35,000.00.

REMARKS AND LIMITS OF AUTHORITY:

PS&E DOCUMENTS FOR THE SUBJECT PROJECT HAVE BEEN REVIEWED AND ARE HEREBY APPROVED. YOU ARE AUTHORIZED TO ADVERTISE THE PROJECT FOR BIDS SUBJECT TO THE CONDITION THAT THE TWO OUTSTANDING PARCELS INDICATED IN MR. OAKES'S JULY 23, 1968 REPORT WILL BE AVAILABLE FOR OCCUPANCY PRIOR TO OUR CONCURRENCE IN AWARD.

MR. YOUNG'S JULY 24, 1968 REQUEST AND CERTIFYING STATEMENTS ARE ACCEPTED. A SIGNED COPY OF THE TITLE SHEET IS RETURNED HEREWITH.

orig to Young
w/ [illegible]
7-30-68

NOTED
F. B. KLABOE

OFFICE USE

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
JULY 26, 1968		DIVISION ENGINEER

RECEIVED
JUL 31 1968

Form FH-121 (4-67)

UNITED STATES GOVERNMENT

Memorandum

I-80N-7(25)3[illegible]

7185

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS

477 Cottage St. NE. - Salem OR 97301

DATE: July 24, 1968

In reply refer to: 08-35.6

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon   Attention: Mr. I. D. Merchant

[illegible]

FROM for R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Project I-80N-7(5)328
Preliminary Plans for the Lime Overcrossing of the Union Pacific Railroad and the Old Oregon Trail Highway

The revised preliminary plans submitted with Mr. Merchant's July 16, 1968 letter have been reviewed and are approved.

As agreed during a conference in this office on June 18 the cut slope adjacent to the railroad has been changed to 1½:1 and a rock blanket added to insure slope stability. Also, we note the revision in the cross section at the railroad tracks whereby the ditch offset is increased to 22 feet thus placing the low point of the ditch outside the columns rather than inside as shown on the previous layout.

As discussed with Mr. Roake on July 24 we request that you furnish us with the latest railroad plans and sketches showing clearances and standard cross sections.

Original to Merchant 7-26-68

NOTED
TOM EDWARDS

F. B. KLABOE

7-26-68

✓ REFERRED TO
Edw. Litchfield Young
BY ASST STATE HWY. ENGR.

RECEIVED
JUL 26 1968
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

RECEIVED
JUL 26 1968

FOR FILING

SP*23811-734

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

I-80N-7(25)3211
7185

Salem, Oregon
July 24, 1968

SUBJECT:
Lime Overcrossing - UPRR
Lime Section
Old Oregon Trail Highway
Baker County
Bridge No. 9354
SXF-432
PUX-671

To:
Mr. Jack L. Sellis
Utilities & Railroad Attorney
Legal Division
Building

Since June 24, 1968, when we requested you to amend the PUC Order by substituting a revised Drawing No. 23509, for that which accompanied our application, the Railroad has requested a further change, requiring that we extend the overcrossing so that the cross section of the track, ditch and fallout area would correspond with their standard cross section, as developed by them on September 24, 1956.

We have made this revision to the drawing and attach 12 prints.

Will you please have the attached drawing submitted to the PUC as an amended exhibit and amend the application for the PUC Order in such manner as to reflect this change.

ORIGINAL SIGNED
T. C. ROAKE
Theo. C. Roake
Asst. Bridge Engineer

TCR:jr
Attachments

cc: Tom Edwards
T. W. Litchfield

NOTED
TOM EDWARDS

RECEIVED
JUL 25 1968
OFFICE OF
STATE HIGHWAY ENGINEER

FORM E-123

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD

FRED W. HILL, MEMBER
PENDLETON

THADDEUS B. BRUNO, MEMBER
PORTLAND

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

Prog & Dwg

July 12, 1968

Oregon State Highway Commission

Porter

Gentlemen:

Presented for your consideration at the August 20 meeting will be a throughway agreement with Baker County pertaining to the construction of the Lime Section of the Old Oregon Trail Highway (I-80N).

This agreement provides for construction and maintenance of the project by the State and covers right-of-way acquisition, grading, base, paving, and structures. Further provisions are made for the closure of certain roads and relocation of utility facilities.

This project is tentatively scheduled for the September 3 bid letting and is estimated to cost approximately $3,300,000.

I recommend your approval and request authority for the Secretary to sign the agreement for and on your behalf.

Very truly yours,

Forrest Cooper

Forrest Cooper
State Highway Engineer

6/13/68
approved.

RECEIVED
JUL 1[illegible] 196[illegible]
OFFICE OF
STATE HIGHWAY ENGINEER

NOTED
R L PORTER

RECEIVED
JUL 17 1968

FOR FILE:

HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS

LETTER OF APPROVAL AND/OR AUTHORIZATION

I-80N-7(25)341
7185

TO: Mr. Forrest Cooper, State Highway Engineer Salem, Oregon	PROJECT: I-80N-7(16)327
	SECTION: Lime Section of Bubbs Ranch-Malheur Co.Line
	WORK : Utility adjustment
	COUNTY : Baker
FROM: R. E. Simpson, Division Engineer Salem, Oregon	DATE PS&E APPROVED ------
	DATE AUTHORIZED 7-10-68

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW:

○ CONSTRUCTION - ADVERTISE FOR BIDS.
○ RIGHT OF WAY.
○ OTHER (SPECIFY).
☒ UTILITY ADJUSTMENT.
○ RIGHT OF WAY INCIDENTALS AND RELOCATION PAYMENTS.

REMARKS AND LIMITS OF AUTHORITY:

We approve the agreement with Pacific Northwest Bell Telephone utility company consisting of your May 14, 1968 Utilities and Railroad Attorney's letter, the June 18, 1968 Utility's letter and the plans and estimate furnished by Mr. Litchfield's June 27, 1968 letter.

Since the utility is not adequately staffed or equipped to perform a portion of the work with its own forces, the contract method of performing such work, as indicated in the estimate, is satisfactory providing the appropriate Civil Rights clauses are included.

Reimbursement on an actual cost basis estimated to be $7,441 is approved.

Receipt of Mr. Payton's May 23, 1968 affidavit of the company's property rights is acknowledged. The permit covering this adjustment was previously approved by this office.

Our PR-9 program endorsement dated March 2, 1965 authorized you to proceed effective on that date. You now are authorized to proceed with actual adjustments for the above mentioned utility effective today. Approval and participation for the eligible portion of the work is subject to the provisions of PPM 30-4 dated October 15,1966 and supplements thereto.

OFFICE USE

7-16-68
REFERRED TO
Young - Litchfield
BY ASST. STATE HWY. ENGR.

RECEIVED
JUL 12 1968
OFFICE OF
STATE HIGHWAY ENGINEER

NOTED
D. KLABOE

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
7-10-68	B M Brooks	Division Engineer

RECEIVED
JUL 8 - 1968
[illegible]

I-80N-7(25)341
7185

UNION PACIFIC RAILROAD COMPANY
TRANSPORTATION DIVISION
DEPARTMENT OF OPERATION

W. G. JOHNSON
SUPERINTENDENT
OREGON DIVISION

2525 NO. LARRABEE AVE.
PORTLAND, OREGON 97227

JULY 3, 1968

File Ref. D 315 - 2 - 129

Mr. F. D. Morgan,
Construction Engineer
Oregon State Highway Department
Salem, Oregon 97310

Atten: Mr. T. W. Litchfield,
Utilities Liaison Engineer

RECEIVED
JUL [illegible] 1968
OFFICE OF
STATE HIGHWAY ENGINEER

Dear Sir:

Per recent 'phone advice to your office, core drills, dozer and other equipment have been observed working on hillside above our Company's tracks at Lime so as to endanger railroad operations.

While this office is aware that the State forces are instructed to be cautious when working in vicinity of Railroad's tracks, will appreciate your looking into this matter and handling so railroad traffic will be protected and not interrupted.

Please remind State's employees that when they are working around our tracks they should make certain the Railroad has been contacted and proper measures taken to insure the safety of both their and the Railroad's operations.

Yours very truly,

W. G. Johnson
HBD

NOTED
F. B. KLABOE

Copies to F B Klaboe
Tom Edwards
I D Merchant
A F Parson
F D Morgan

?-8-68
I

Routing
Morgan
Decker
Bond
Barbee
Walker
Glenn
Swan

Reese
Morelock
Trout
Scott
Wills
Litchfield
Olson

RECEIVED
JUL [illegible] 1968
CONSTRUCTION
DIVISION

RECEIVED
JUL 8 1968
FOR FILING

SP*23811-734

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

I-80N-7(25) 341
7185

Salem, Oregon
June 25, 1968

SUBJECT: Lime Overcrossing - UPRR
Lime Section
Old Oregon Trail Highway
Baker County
Bridge No. 9354
SXF-432
Pux 671

To: Mr. Jack L. Sollis
Utilities & Railroad Attorney
Legal Division
Building

Attached are 12 prints of Drawing No. 23509, which is the plan and elevation drawing for the subject structure. This drawing has been revised to reflect the agreement of the Bureau of Public Roads and the proposal to the railroad as to the treatment of the slope at the westerly end of the structure.

The end slope has been increased from a 1 to 1 slope to that of a 1½ to 1 slope, normal to the end bent of the structure, with a 3' rock blanket over the area, which is composed of material other than solid rock. This change in end slope supersedes our previous agreement to make the end slope 2 to 1 if a 1 to 1 slope was not cut in a sound and stable rocky material. The 1½ to 1 slope was arrived at after the seismic investigation of the area was taken and the whole matter of slopes was studied in depth. It was determined that the lower half of the cut is in very dense material which should stand on a 1 to 1 slope. The westerly half of the upper portion of the cut is also in dense material and should stand at a 1 to 1 slope. However, the easterly half of the upper portion of the cut is in less dense material and would probably be subject to raveling. Therefore, we have determined the proper slope to be 1½ to 1, which as mentioned above meets with the approval of the Bureau of Public Roads.

Will you please have the attached drawings submitted to the PUC as an amended exhibit and amend the application for the PUC Order in such manner as to reflect this change.

ORIGINAL SIGNED
T. C. ROAKE
Theo. C. Roake
Asst. Bridge Engineer

TCR:jr
Attachments

cc: Tom Edwards
T. W. Litchfield

RECEIVED
JUN 25 1968
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
JUN 2 4 1968
FOR FILING

I-80N-7(25)341
7185

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

June 21, 1968
Salem, Oregon

SUBJECT: Lime Section - 80N

To: Mr. F. W. Yarbrough
Shops

ATTENTION: C. J. Gregg

Recent bid prices on continuously reinforced concrete pavement, constructed by slip form methods, has caused a reassessment of surfacing costs on the subject section.

Present worth costs have been determined (see attached sheets) for the following sections:

4" AC 6" PMBB 6 1/2" PMSB	8" cont. reinf. conc. 2" level 5" PMSB
PWC $248,391.27 per 4 lane mile	PWC $235,744.61 per 4 lane mile

On the basis of the above figures, the Project Base Design should be revised to call for the CRCP design and submitted for approval.

F. D. Morgan
Construction Engineer

F. B. KLABOE
NOTED

By: ORIGINAL SIGNED by G. L. DECKER

G. L. Decker
Asst. Construction Engineer

GLD:ss
Enclosures

cc: F. B. Klaboe
O. A. White
F. L. Hall
R. H. Stein

RECEIVED
JUN 2 1 1968
OFFICE OF
STATE HIGHWAY ENGINEER

Form E-4a—30M

[illegible] Section
4-Lane Mile

OREGON STATE HIGHWAY
DEPARTMENT

A.C.-

TABULATION SHEET

SHEET 1 OF 1 SHEETS

[illegible] [illegible] 1960 - [illegible]

2012' Lanes
1086' Shldrs
6:1 rock slopes

			Unit	Quant	Quant [illegible]	Unit Price	Amount	
[illegible] Base (Incl water)			[illegible]	—	33,506	1.80	60,310	80
[illegible]			"	7182	7900	1.80	14,220	00
[illegible]			M.Gal	118	130	2.10	273	00
[illegible]			Mile	1		758.00	758	00
[illegible]			Ton	10066	11,073	4.00	44,292	00
[illegible]	[illegible]		"	453	498	40.00	19,920	00
[illegible]			"	9808	10,789	4.25	45,853	25
[illegible]	[illegible]		"	539	593	40.00	23,720	00
				Initial Cost			209,347	05
							209,347	05

P.C.C. - 248,391.27
(See Page 2)

Form E 49 50M

2-Lane Mile

OREGON STATE HIGHWAY
DEPARTMENT

TABULATION SHEET
SHEET 1 OF 1 SHEETS

[illegible]

[illegible]
[illegible]
6:1 Rock Slopes

[illegible]			[illegible]	Quant	Quant [illegible]	Unit Price	Amount	
[illegible]			Ton		21,55[illegible] ✓	1.80	38,800	80 ✓
[illegible]	[illegible]		Ton	6,065	6,672 ✓	1.80	12,009	60 ✓
[illegible]			M. Gal	104	114 ✓	2.10	239	40 ✓
[illegible]	[illegible]		Mile	1	—	758.00	758	00 ✓
[illegible]	[illegible]		Ton	[illegible]	[illegible] ✓	4.25	12,203	50 ✓
[illegible]	[illegible]		"	227	250 ✓	40.00	10,000	00 ✓
[illegible]	[illegible] Form)		Sq. Yd	28,160 ✓	—	5.25	147,840	00 ✓
					Initial Cost		228,951	30 ✓

[illegible] 25 years
[illegible] (11.0991) = 6,793 31 ✓

PWC = $235 744.61 ✓

Form 4... 30M

OREGON STATE HIGHWAY
DEPARTMENT

TABULATION SHEET

SHEET 2 OF 2 SHEETS

A C

25 yr analysis period
5% compound Interest

[illegible] Subgrade

[illegible] Cost ([illegible] I)		$ 209,347.05
[illegible] 3" at [illegible] yrs – (76' width)		
[illegible] tons		
[illegible] = $34,791.30		
[illegible] (20 yr) $34,791.30 (1.319)	45,889.72	
[illegible] 20% –	9,177.94	
	55,067.66	
55,067.66 (0.5051)		27,814.68
Maintenance (25 years)		
[illegible] (14.094)		14,714.14
Less Salvage		
[illegible] $ 55,067.66 (0.2953)		– 3,484.60
P.W.C.		$ 248,391.27

RECEIVED
JUN 24 1968
FOR FILE

5-BCN-7(25)3-44
7185

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
June 20, 1968

SUBJECT: File No. 37261 - Oregon-Portland Cement Company
Lime Section
Old Oregon Trail Highway
Baker County

To: Mr. R. L. Porter
Deputy State Highway Engineer

BUILDING

During the course of our several negotiations with the Oregon-Portland Cement Company at Lime, they have questioned the type of paving which would be placed on the freeway through their plant at Lime.

I am attaching a letter dated June 19, 1968, from Agent Allen to District Supervisor Snell on the subject and also a memo to the file written by Mr. Chatwood dated July 28, 1965. This is for your information, as I have the feeling the Portland Cement Company either is contacting or has already contacted one of the Highway Commissioners on the subject of the type of paving to be used on this section of highway.

G. E. ROHDE
Chief Counsel

D H Moehring
D. H. Moehring
Right of Way Engineer

NOTED
F. B. KLABOE

DHM:JP
Attachments
cc G. E. Rohde

RECEIVED
JUN 21 1968
OFFICE OF
STATE HIGHWAY ENGINEER

FORM E-30X—50M—1-65 SP*6410-71

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE
La Grande, Oregon 97850
July 28, 1965

To: MEMO to the FILE:

SUBJECT: File No. 37261
Oregon Portland Cement Company
Bubb's Ranch to Lime Sections
Baker County

During the many months of working with the Oregon Portland Cement Company and acquiring properties under other files from them, they have been more than cooperative in all of the dealings. During the preliminary studies and negotiations on this file, the major concern of the company was their desire that the construction of the highway would not interfere with the operation of their plant.

The company has declined any relocation assistance and has saved the State a great deal of money in many ways, such as redesigning their new bulk loading plant so it would not interfere with the new construction; leveling a new area and moving several hundred tons of coal from the area being taken; voluntarily removing several hundred feet of railroad spur that would have been within the taking and would have had to be purchased by the State; removing all machinery, etc., from the storage area westerly of the river; and they have made no fantastic claims as to mineral deposits being taken or severed.

We, at the local level, feel that the cooperation of this company has saved the State many, many thousands of dollars. That is, they could have made additional claims for damages, some perhaps justifiable, that would have been hard for the State to disclaim.

Harold Schmidt, the right of way agent negotiating this file, left the employment of the State July 15, 1965, thus some of the papers in this file will bear his signature, over mine.

K. A. CHATWOOD
District Supervisor

KAC:if

RECEIVED
JUN 2 1968

FOR FILE

Rohde

SP*23657-734

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

RECEIVED
JUN 20 1968
LEGAL & RIGHT OF WAY

I-80N-7(25)344
7185

LaGrande, Oregon 97850
June 19, 1968

To:
Mr. H. W. Snell
District Supervisor
LA GRANDE

SUBJECT:
File No. 37261 - Oregon-Portland
Cement Company
Lime Section
Old Oregon Trail Highway
Baker County

During recent negotiations with Oregon-Portland Cement Company I was informed by the Salem Construction Department that A.C. surfacing was to be used on the Lime Section. I am writing this letter giving a brief history of the negotiations with the company, and to urge that all aspects of the situation be reconsidered toward the possibility of using P.C. surfacing instead of the A.C.

Since negotiations started with Oregon-Portland Cement Company, in about 1964, they have been concerned with the type of surfacing that would be used around their plant in this section. They have many times, in a friendly manner, remarked that they should not sign any options or papers until they were assured that Portland Cement would be used. They feel, and I think quite justly, that it would be a slap in the face to the company to have the black surfacing through their plant. I attempted several times during the past four years to get a definite answer as to the type of surfacing that would be used, but while no one could give the definite answer, I was told that all possible consideration would be given to the P.C. surfacing. This information I passed on to them.

Porter

The Oregon-Portland Cement Company has been more than cooperative and public spirited in their negotiations with the Highway Department. It is my opinion that if the same right of way purchased from them had been purchased from a company that was determined to get every possible penny, the right of way would have cost at least $100,000.00 more. Attached is a memo to the file written by Mr. Chatwood in July, 1965, which mentions many but not all of the items of damage that could have been claimed by the company.

During my talk with them last week they mentioned that the newly approved slip-form method of laying P.C. saved $1.25 a square yard, and this reduction in cost made it quite competitive with A.C.

VERNE A. ALLEN
Right of Way Agent

VAA/pg

RECEIVED
AUG 20 1968

Form FH-121 (4-67)
UNITED STATES GOVERNMENT

~~FOR~~ *Memorandum*

I-80N-7(5)
7185

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
477 Cottage St. NE. - Salem OR 97301

DATE: June 6, 1968

In reply refer to: 08-35.6

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM : for R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Project I-80N-7(5)328
Preliminary Plans for Lime Overcrossing of
UPRR and Old Oregon Trail Highway

6665

We have reviewed your May 29, 1968 submission for this structure. The revisions, made in response to the Railroad's comments on the original preliminary layout, involve lengthening Span 4 to accommodate a flatter cut slope beneath the structure.

Based on the information submitted to us we still believe that 1 : 1 slopes are satisfactory. If the Railroad is not willing to accept the 1 : 1 slope on the basis of present information, we then recommend that borings be made in the area to permit a further evaluation. Also, if slopes flatter than 1 : 1 are to be used, we believe that the excavation to be performed at this time be held to a minimum.

RECEIVED
JUN 7 1968
OFFICE OF
STATE HIGHWAY ENGINEER

FORM EH 23X 50M 7-65

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
KENNETH N. FRIDLEY, MEMBER
WASCO
DAVID B. [illegible]
PORTLAND

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

RECEIVED
JUN 3 - 1968
FOR FILING

I-80N-7(95) 5-11
7185

May 29, 1968

Mr. R. R. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage Street N. E.
Salem, Oregon

Subject: Lime O'Xing of UPRR
Lime Section
Old Oregon Trail Highway
Baker County
Bridge No. 9354

Dear Sir:

The Union Pacific Railroad Company has qualified their approval of the preliminary plans on the subject structure contingent on the stability of the proposed cut slope adjacent to their tracks. Please refer to the attached copy of Union Pacific Railroad Company's letter dated February 26, 1968.

An investigation of the site was made by the Soil Section of the Construction Division. A copy of their report, as well as a copy of a letter from Mr. Decker with a recommendation that a 2:1 slope be used as the only guarantee of overall slope stability, are attached.

On the basis of the above recommendations, span four of the proposed overcrossing has been revised to accommodate a 2:1 slope. Five prints of Drawing No. 23509, the Preliminary Plan and Elevation drawing with the revised span arrangement, are enclosed herewith.

The estimated cost of the proposed structure with revised span arrangement and including a 20 percent allowance for engineering and contingencies is $860,000. All other data on the project are as contained in the preliminary submission of October 31, 1967, to your office.

NOTED
TOM EDWARDS

The above data is transmitted herewith as a revised preliminary submission on this project for your comments and approval. As this project is tentatively scheduled for the July 25, 1968, letting date, an early reply would be appreciated.

Very truly yours,

Ivan D. Merchant
Bridge Engineer

WJH:jr
Attachments

cc: Tom Edwards (w/attachments)
L. H. Young
C. H. Maison
T. W. Litchfield

RECEIVED
MAY 31 1968
OFFICE OF
STATE HIGHWAY ENGINEER

9354

UNION PACIFIC RAILROAD COMPANY
TRANSPORTATION DIVISION
DEPARTMENT OF OPERATION

W. G. JOHNSON
~~G. H. BAKER~~
SUPERINTENDENT
OREGON DIVISION

2525 NO. LARRABEE AVE.
PORTLAND 17, OREGON

February 26, 1968

(File Ref. D 315-2-129)

Mr. Ivan D. Merchant
Bridge Engineer
Oregon State Highway Department
Salem, Oregon 97310

RECEIVED
OREGON STATE HIGHWAY DEPT.
BRIDGE DIVISION
AM FEB 28 1968 PM
7,8,9,10,11,12,1,2,3,4,5,6

Dear Mr. Merchant:

Lime Overcrossing - UPRR
Lime Section, Old Oregon Trail Highway
Baker County, Bridge No. 9354

Referring to your letter of January 30, transmitting revised prints from State's Vicinity Map Dwg. No. 19859 and Plan and Elevation Dwg. No. 23509, covering a proposed overcrossing of the Railroad's track and right of way at MP 384.36 near Lime, Oregon, under the referenced Highway project.

For your record and information, one copy of each drawing referred to above is returned herewith on which Mr. R. M. Brown, Chief Engineer for the Railroad has noted his approval subject to notations in red on Dwg. No. 19859 identifying the Railroad's communication and signal lines and on Dwg. No. 23509 indicating that 9 ft. 6 ins. clearance horizontally will be provided with respect to the Railroad's existing side track normal to track center line and the Railroad's cut slope will be 2:1 rather than 1:1 in event the slopes are materials other than sound and stable rocky materials. These notations are in line with previous correspondence and answer filed by our company in response to application addressed by the Highway Department to the Public Utility Commissioner.

Very truly yours,

W. G. Johnson
W. G. Johnson
HBD

NOTED
L. L. WALLACE

cc: Mr. T. W. Litchfield
Utilities Liaison Engineer
Oregon State Highway Department
Salem, Oregon 97310

NOTED
L. L. WALLACE

FORM E-30 (12-67)

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE
May 24, 1968
Salem, Oregon

To: MEMO TO THE FILES

SUBJECT: Lime Section
Old Oregon Trail Highway - 80-N
Baker County
Slopes under Proposed Structure at RR M.P. 384.36

The original proposed slopes under the southerly end of the overcrossing structure planned at RR M.P. 384.36 were 1:1. Approval by the RR was contingent upon this slope being in sound and stable rocky material.

An investigation of the site has been made by the Soil Section. A copy of the report is attached.

The report shows existing slopes in the area to vary from 1:1 through stream deposited material, 3/4:1 through mud stone schist to 1/2:1 through a basalt dike. Above the basalt the slope of the rocky overburden (weathered limestone) flattens considerably.

Complete stability should not be expected in a freshly cut 1:1 slope through this section. Intermittent fall-outs and continued ravelling should be expected. For this particular problem a 2:1 slope is recommended.

ORIGINAL SIGNED by G. L. DECKER

G. L. Decker
Asst. Construction Engineer

GLD:ss

cc: Ivan Merchant ✓

FORM 4-30 50M 3-62 SP*6470-734

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

May 8, 1968
Salem, Oregon

To: F. W. Yarbrough
Staff Assistant
Engineering Laboratory

SUBJECT: Geophysical Investigation
Railroad Overcrossing
LIME SECTION
Stations 663 to 668
Old Oregon Trail Highway
Baker County

As requested, the above investigation was recently completed. The results are shown on the accompanying sheet of drawings.

It is to be noted that:

1) The stream deposit material as exposed in the existing railroad cut is standing on a 45° slope (1 : 1) opposite J_1 end of SI_2; on a 50° slope (steeper than 1 : 1) near J_{11} and of SI_3; and on a 55+° slope near station 664.

2) The mud stone schist as exposed in the existing railroad cut is standing on a (3/4 : 1) or steeper.

3) The basalt dike is standing on a 1/2: 1 to a vertical slope.

4) The diagrammatic view of the existing railroad cut, and the photographs show the material distribution.

William P. Milne

William P. Milne
Assistant Geologist

WPM:wjh

Attachment

cc: F. D. Morgan
G. L. Decker
A. F. Parson
Vern Moore

Routing
Morgan
Decker C
Bond
Barbee
Walker
Glenn
Swan
Pease
Morelock
Trout
Scott
Wills
Litchfield
Olson

RECEIVED
MAY 1 . 196
CONSTRUCTION
DIVISION

RECEIVED
JUN 3 1968

UNITED STATES GOVERNMENT
Memorandum

I-80N-7(25)341
7185

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
477 Cottage Street, NE
Salem, Oregon 97301

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

DATE: May 28, 1968

In reply refer to: 08-35.EC/711.10

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

NOTED
F. B. KLABOE

SUBJECT: Oregon Federal-aid Interstate Program

Mr. Young's May 22, 1968 letter submitted three items for inclusion in the subject program. These Stage 2, Construction Phase Projects, are approved effective today:

Item	Project	Location	Work
537	I-80N-7(25)341	Lime Section	Grade, pave, 1 struc.
538	I-205-7(11)294	West Linn-Tualatin Riv.	Grade, pave, 8 struc.
539	I-205-7(12)290	Taulatin River-I-5	Grade, pave, 8 struc.

For Items 538 and 539, I-205 from I-5 to West Linn, you have satisfactorily complied with the urban area prerequisites.

You are cautioned on the above two projects that the illumination work will have to be submitted and approved on each interchange.

You are authorized to proceed with utility preparatory work for all three projects effective today.

This action provides for improvement of 11.86 miles of Interstate highway at a total estimated cost of $25,390,000 of which $23,358,000 is reserved as Federal-aid Interstate funds.

6-3-68

REFERRED TO
Young
By Asst State Hwy. Engr

RECEIVED
MAY 31 1968
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

RECEIVED
MAY 23 1968
FOR FILING

I-80N-7(25)341
7185

May 22, 1968

Mr. R. B. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage St. N. E.
Salem, Oregon

Dear Sir:

We are submitting program data for three Interstate projects, Items 537 through 539, which we desire to have included in the Federal-Aid Interstate Highway Program.

It would be greatly appreciated if program approval of these items could be expedited.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

L. H. Young
Office Engineer

Enclosures

RNC:ia

MONTHLY TRANSACTION NO.	FORM PR-1 (REV. 4-61)
DATE SUBMITTED TO W. O.	**FEDERAL - AI** (P

CARD 2	REPORT NUMBER 1 (19) (20)	PROJECT LOCATION *(45 typewriter spaces)* I-80N Lime Interchange S. 3.61 miles 21 65	**ADT**	PRESENT 2,250	FUTURE 3,850 (66) (70)

CARD 3	CHARACTER OF PROPOSED WORK *(35 typewriter spaces)* Gr., Dr. High-Type Pave., 1 Br. 28 62	NATL. FOREST (63) (65)	FH ROUTE NO. (66) (68)	SUPV AGCY (69)	DA CLASSIF. (70)	DA AREA (71)	EMERG. YR. (72) (73)	PL. A (74)

CARD 4	CLASS OF FEDERAL FUNDS Interstate	COUNTY NAME
	NAME OF URBAN AREA 17-31	ROUTE NO. I / FEDERAL I-80

CARD 5	LINE NO.	CHANGE CODE	PROJECT CODE	WORK CLASS	WORK TYPE	STEP	TERMINI *(Full description)*	MILES	ESTIMATED PROJEC TOTAL ESTIMATED COST	FEDERAL FUNDS
1	(14-15)	(16	41	42	43 46	53		(54) (58)	(59) (66)	(67)
5					**PE**		I-80N Lime Interchange S. 3.61 miles (Lime Section)			
5					**ROW**					
5					**CONST** (CODE)			3.61	3,300,000	3,036,000

CARD 1	CODE 1	PREPARED BY	PROJECT TOTALS	3.61	3,300,000	3,036,000
1	14	PROGRAM APPROVAL DATES			(16) (23)	(24)

Budget Bureau No. 41-R2067; Approval Expires February 28, 1966

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

ADT PRESENT: 2,250 FUTURE: 3,850 YEAR: 88

REGION: 08

STATE NAME: Oregon

STATE CODE: 35

APPN CODE: 042

ITEM NO.: 537

PV AGCY:

DA CLASSIF.:

DA AREA:

EMERG. YR.:

PL. AUTH YR:

PROJECT NUMBER: PREFIX LETTER(S): I- NUMBER: 80- 7 SEQ. NO.: (25)

I. Projects Only: POST MI.: 341 DESIG.: N

COUNTY NAME: Baker CODE: 001

PROGRAM STAGE: ☐ 1 OR ☒ 2

ROUTE NO. I FEDERAL-AID: I-80N STATE: U.S.: I-80N

MILES	TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS
3.61	3,300,000	3,036,000	264,000	
3.61	3,300,000	3,036,000	264,000	

The column headers FEDERAL FUNDS, STATE FUNDS and OTHER FUNDS stand under the printed heading ESTIMATED PROJECT COST BY PHASES.

CHARACTER OF PROPOSED WORK
(Full description)

Gr., Dr., 4-12' lanes H.T. Pave., 10' shldrs 16' median with barrier, frontage rd. 20'. One RC box girder hwy.-RR o'xing length 502', HC 88'.

ROW - 300' normal;
Access control - full;
Parking restrictions - complete.
Railroad - adj. req. incl. prel. work and protective service.

REMARKS

Additional Data: Items 106, 373, 377 and 420; Projects I-80N-7(5)328, I-80N-7(16)327, I-80N-7(17) 333 and I-80N-7(18)341

USCOMM DUSCOMM-DC 48908-P61

Remarks Continued:

Railroad Data

Railroad	Union Pacific
No. of Tracks	2 (1 main; 1 passing)
No. of Trains	19 (4 passenger; 15 freight and switching)
No. of High Speed Trains	None
Existing Protection	New Crossing
Proposed Protection	Grade Separation
Railroad Benefits	None
PUC Order	Being applied for

RECEIVED
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I-80N-7(25) 2-11
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SP*23657-734

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
April 23, 1968

SUBJECT: Lime O'Xing - UPRR
Lime Section
Old Oregon Trail Highway
Baker County
Bridge No. 9354
Pux 671

To: Mr. Jack L. Sollis
Utilities & Railroad Attorney
Legal Division
Building

In response to your request dated April 10, 1968, - first let me advise you that the drawing referred to on page 2 of James R. Ritchie's letter of April 9, 1968, has been revised since the January 16, 1968, revision.

The later revision changes the horisontal clearance to 9'6" on the easterly side of the spur track and also revises the sise of columns of Bent 3. These revisions were made on March 1, 1968, and were in response to the Railroad Company's request to have the same clearance on both the main and spur liner. You will note that these clearances are at right angles to the superelevation of the track. The tracks are not parallel due to the spreading of the track further south; however, the distance between the tracks varies approximately from 15.43' at the northerly edge to 15.83' at the southerly edge of the structure, which amounts to a little less than 5".

In reply to the two questions asked on page 3 of Mr. Ritchie's letter:

First, the structure will equal or exceed 23'4" above the top of the high rail on both the main and spur tracks during and after construction.

Second, the main line track at the point of intersection with the R/W centerline is on a Searles spiral. N equals 9, C equals 26, Delta equals 7 degrees 30'. This spiral enters into a 6 degree 26' curve and begins at Railroad Station 6417+32.6 and ends at Railroad

8

Station 6419+66.6 C.C. The superelevation of the tracks, according to elevations obtained by our field crew, are as follows:

	Main Track	Spur Track
100' back (northerly) from intersection of centerlines	.006 ft. per ft.	.017 ft. per ft.
At intersection of centerlines	.038 ft. per ft.	.028 ft. per ft.
100' ahead (southerly) from intersection of centerlines	.036 ft. per ft.	.032 ft. per ft.

ORIGINAL SIGNED
T. C. ROAKE
Theo. C. Roake
Asst. Bridge Engineer

TCR:jr

cc: Tom Edwards
T. W. Litchfield

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MAR 1 5 1968

Form FH-121 (4-67)

UNITED STATES GOVERNMENT

Memorandum

I-80N-7(25)341
7185

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
477 Cottage St. NE. - Salem OR 97301

DATE: March 8, 1968

In reply refer to: 08-35.6

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon
Attention: Mr. Tom Edwards

FROM : G. R. Brooks, Assistant Division Engineer
Salem, Oregon

SUBJECT: Oregon Project I-80N-7(5)328
Preliminary Plans for Lime O'xing of UPRR and Old Oregon Trail Highway

We hereby approve the preliminary plans for this structure as requested by Mr. Merchant's October 31, 1967 letter supplemented by Mr. Litchfield's December 20, 1967 letter and your February 27, 1968 letter.

NOTED
TOM EDWARDS

Copy
Ivan
[illegible]
Young
3-15-68

RECEIVED
MAR 1 2 1968
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

RECEIVED
FEB 28 1968

FOR FILING

I-80N-7(35)341
7185

February 27, 1968

Mr. A. W. Parsons
Division Engineer
Bureau of Public Roads
477 Cottage Street, N. E.
Salem, Oregon 97301

Re: Lime O'xing of U.P.R.R.
Lime Section
Old Oregon Trail Highway
Baker County
Bridge No. 9354

Dear Sir:

In your letter of December 1, 1967 containing your comments on the preliminary submission on the subject structure, several questions were raised, to which we reply as follows:

We concur that the slight batter shown on the columns is not justified at this location; therefore, straight round columns will be incorporated in the final design.

The proposal to use a special contour treatment at the toe of slope for safety purposes has been considered. To incorporate this type of treatment at this location would require a revision in the length of structure. Considerable final design work has already been done on this structure and we therefore feel that such application should not be tried at this site. Attention will be given to future structures where its use may be more applicable.

Justification for the additional structure length required to accommodate the future alignment of the Union Pacific Railroad tracks was contained in a letter of December 20, 1967 from Mr. Litchfield to your office.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

Tom Edwards
Assistant State Highway Engineer

bc Forrest Cooper
R. L. Porter
Victor D. Wolfe
F. B. Klaboe
Ivan Merchant
L. H. Young

WJH:jr;amd ja

FORM E-120

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
DAVID B. SIMPSON, MEMBER
PORTLAND
FRED W. HILL, MEMBER
HELIX

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

I-80N-7(

7115

February 5, 1968

Mr. Sam R. Haley
Public Utility Commissioner
200 Public Service Building
Salem, Oregon 97310

Re: PUX 671 - Lime Overcrossing
Oregon-Washington Railroad &
Navigation Company and the
Union Pacific Railroad Co.
Baker County
Your No. SXF 432

Dear Sir:

Herewith I hand you original and four copies of the Reply of the State Highway Commission in the above-subject matter.

Very truly yours,

G. E. Rohde
Chief Counsel

By

JACK L. SOLLIS
Utilities & Railroad
Attorney

JLS:lf
Enclosures

cc: R. L. Porter
F. B. Klaboe
Ivan D. Merchant
F. D. Morgan
A. F. Parson
T. W. Litchfield

RECEIVED
FEB - 6 1968
OFFICE OF
STATE HIGHWAY ENGINEER

JLS:lf

1-31-68

PUX 671

BEFORE THE PUBLIC UTILITY COMMISSIONER OF OREGON

In the matter of the application of the STATE OF OREGON, by and through its State Highway Commission, for authority to construct an overcrossing over the tracks and right-of-way of the OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY and the UNION PACIFIC RAILROAD COMPANY, lessee, known as the LIME OVERCROSSING project in the Southeast Quarter of the Northeast Quarter (SE¼NE¼) of Section 27, Township 13 South, Range 44 East, Willamette Meridian, Baker County, Oregon.	No. SXF-432 REPLY

Comes now the Applicant, State of Oregon, by and through its State Highway and Replies to Respondent Railroad as follows:

I

Drawing No. 19859 and No. 23509 have been revised to include the information requested in Paragraph II & IV and have no objections to these items being included in the order.

II

That the proposal contained in Paragraph III (c) of Respondent's Answer is acceptable.

III

That the revised drawings No. 23509 and No. 19859 are attached hereto and should be substituted for the drawings attached to the Application.

WHEREFORE, having fully replied to the Answer of the Respondent Railroad, Applicant prays for an order in conformity with the Application, Answer and Reply and for such further order as may be proper in the premises.

JLS:lf
1-31-68

Dated at Salem, Oregon this 5th day of February 1968.

STATE OF OREGON, by and through
its State Highway Commission

G. E. ROHDE
Assistant Attorney General and Chief
Counsel for the State Highway Commission

By_______________________
JACK L. SOLLIS
Utilities & Railroad Attorney

STATE OF OREGON)
) ss
County of Marion)

I, IVAN D. MERCHANT, being first duly sworn, say that I am Bridge Engineer for the Oregon State Highway Commission and that the foregoing Reply is true as I verily believe.

IVAN D. MERCHANT

Subscribed and sworn to before me this 5th day of February 1968.

JACK L. SOLLIS
Notary Public for Oregon
My Commission Expires December 19, 1968

I certify that the above is a true and correct copy of the foregoing Reply and the whole thereof.

Jack L. Sollis

Jack L. Sollis
Utilities & Railroad Attorney

Reply
Page 2
PUX 671

FORM E-129X 20M 2-65

RECEIVED 1968

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
KENNETH N. FRIDLEY, MEMBER
WASCO
DAVID B. SIMPSON, MEMBER
PORTLAND

I-80N-7(25)341
7185

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

January 30, 1968

Union Pacific Railroad Company
2525 N. Larrabee Avenue
Portland, Oregon 97227

Attention: W. G. Johnson
Superintendent

Subject: Lime Overcrossing - UPRR
Lime Section
Old Oregon Trail Highway
Baker County
Bridge No. 9354
Your File: D315-2-129

Dear Sir:

In compliance with your letters of January 9 and 25, 1968, and your Answer to our PUC Application for an Overcrossing of your tracks at Lime, we have revised Drawings No. 19859 and 23509 to show the following:

(a) Corrections of the alignment of your future tracks.

(b) Added to Drawing No. 19859 the easement boundaries.

(c) Deleted the reference to Western Union.

(d) Changed the 9'6" horizontal construction clearances so that the line would be perpendicular to the superelevation of the tracks.

We are attaching 4 prints each of the abovementioned drawings in order that you may substitute them for those sent previously.

Very truly yours,

Ivan D. Merchant
Bridge Engineer

NOTED
TOM EDWARDS

TCR:jr
Attachments

cc: Tom Edwards
T. W. Litchfield
Jack L. Sollis

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DEC 22 1967
FOR FILING

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
DAVID B. SIMPSON, MEMBER
PORTLAND
FRED W. HILL, MEMBER
HELIX

I-80N-7(25)341
7185

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

December 20, 1967

Mr. A. W. Parsons
Division Engineer
Bureau of Public Roads
477 Cottage Street, N. E.
Salem, Oregon 97301

Re: Future Plans of UPRR
Lime Section
Old Oregon Trail Highway
Baker County
Project No. I-80N-7 (5) 328

Dear Sir:

In your letter of December 1, 1967, you request adequate justification of the additional length of the structure over the Union Pacific Railroad Company's track at this location.

Attached you will find two (2) copies each of Union Pacific Railroad Company letters dated April 29, 1965, March 31, 1967 and November 3, 1967, along with two (2) prints of Sheet 5 of our Preliminary Plans on which they indicate the future alignment of their tracks through this area. To accommodate this future alignment it will be necessary to build an additional 45 feet of structure and excavate beneath it approximately 16,000 cubic yards of material. The estimated cost of this additional work is $81,200.

We feel this fulfills the requirements of Paragraph 16 of PPM 21-10 and solicit your approval of this plan and request your participation in the anticipated additional cost.

Very truly yours,

F. D. Morgan
Construction Engineer

By:

T. W. Litchfield
Utilities Liaison Engineer

TWL:ss

cc: Tom Edwards w/attachments
F. B. Klaboe "
I. D. Merchant "
L. H. Young "
Jack Sollis "

NOTED
F. B. KLABOE

FORM E-123

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
DAVID B. SIMPSON, MEMBER
PORTLAND
FRED W. HILL, MEMBER
HELIX

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

RECEIVED
DEC 6 - 1967

FOR FILING

I-80N-7(35) - 11
7185

December 5, 1967

Mr. Sam R. Haley
Public Utility Commissioner
200 Public Service Building
Salem, Oregon 97310

NOTED
R. L. PORTER

Re: PUX 671 - Lime Overcrossing
Oregon-Washington Railroad &
Navigation Company and the
Union Pacific Railroad Co.
Baker County

Dear Sir:

Herewith I hand you original and four copies of the Application of the State Highway Commission in the above-subject matter.

Two of the copies are for service upon Union Pacific Railroad Co., one copy for your service upon Baker County, and two copies are for use by your office.

Very truly yours,

G. E. ROHDE
Chief Counsel

By

JACK L. SOLLIS
Utilities & Railroad
Attorney

JLS:lf
Enclosures

cc: R. L. Porter
F. B. Klaboe
Ivan D. Merchant
F. D. Morgan
A. F. Parson
T. W. Litchfield

RECEIVED
DEC 6 - 1967
OFFICE OF
STATE HIGHWAY ENGINEER

JLS:lf
11-22-67

PUX 671

BEFORE THE PUBLIC UTILITY COMMISSIONER OF OREGON

In the matter of the application of the STATE OF OREGON, by and through its State Highway Commission, for authority to construct an Overcrossing over the tracks and right-of-way of the OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY and the UNION PACIFIC RAILROAD COMPANY, Lessee, known as the LIME OVERCROSSING project in the Southeast Quarter of the Northeast Quarter (SE¼NE¼) of Section 27, Township 13 South, Range 44 East, Willamette Meridian, Baker County, Oregon.

APPLICATION

No.________________

Comes now the State Highway Commission and files its Application in the above-titled matter.

The Applicant herein respectfully represents:

I

That the name and address of your Applicant are State of Oregon, by and through its State Highway Commission, State Highway Building, Salem, Oregon 97310.

II

That this Application is made under the authority of ORS366.205, ORS 763.040 and ORS 763.050.

III

That for the proper service, safety and convenience of the traveling public, Applicant proposes to build a new alignment of a portion of the Old Oregon Trail Highway. Said construction necessitates the constructing of an overcrossing structure over the right-of-way and tracks of the Oregon-Washington Railroad & Navigation Company, and the Union Pacific Railroad Company, Lessee, as shown on Oregon State Highway Department Drawing No. 19859 entitled Vicinity Map and Profile, Lime Railroad, O-HD, X-ing Site, dated April 1964, and Drawing No. 23509 entitled Lime Overcrossing of the Union Pacific Railroad, Lime Section, Old Oregon Trail Highway, Plan and Elevation, Bridge No. 9354, attached hereto and by this reference made a part hereof. The proposed structure constitutes a new highway crossing and no grade crossing will be eliminated. Since the railroad will not benefit from the crossing, no participation of said structure is requested from the railroad.

IV

Because of the location of this crossing and the heavy traffic anticipated over it, an overcrossing structure is the only practical means of crossing the railroad track.

V

That upon completion the estimated annual average daily traffic on the overcrossing will be 2150 vehicles with an anticipated increase to 3750 vehicles per day in 20 years; that at the site of the proposed overcrossing there are 11 freight and 4 passenger movements per day and also 4 helper movements per day making a total of 19 train movements per day.

VI

That the proposed structure will have a total length of 458' consisting of 116', 135', 135' and 72' reinforced concrete box girder spans. The roadway width is 88' curb to curb with no provisions for pedestrian traffic. The structure is located on a 1200' vertical curve with an ascending grade of 2.4019% to the southwest and an ascending grade of 0.45% to the northeast with a point of intersection at Station 662+70.00 and at elevation 2268.04. The right of way centerline of the roadway, which is approximately 3' westerly of the construction centerline, intersects the centerline of the existing main line track at R/W Station 663+39.10 P.O.S. equals R.R. Station 6418+54.2 P.O.S. with an intersecting angle of 42°16'30" tangent to tangent, and the centerline of the spur

JLS:lf
11-30-67

track at Hwy. Station 663+16.12 P.O.S. with an intersecting angle of 42°02' tangent to tangent. Both intersecting angles are located in the Southwest Quadrant.

VII

The following parties are affected by the proposed crossing: the Oregon-Washington Railroad & Navigation Company and the Union Pacific Railroad Company, Lessee, and Baker County.

VIII

That the Applicant proposes that the construction and maintenance of the project be handled and the costs thereof be borne as follows:

THINGS TO BE DONE BY APPLICANT:

(a) Prepare plans and specifications and award a contract or contracts for the construction of the proposed grade separation structure, including county road approaches, and supervise the construction thereof.

(b) Within the boundaries of the railroad easement, excavate the end slope at the southerly end of the structure to conform to the requirements of the railroad for their future track, as shown by the dashed line on Drawing No. 23509.

(c) Utilizing State and Federal funds, finance the construction of said project, including reimbursement to the railroad for its costs incurred in connection therewith, with accounting practices to be followed and reimbursement made as provided in Bureau of Public Roads' Policy and Procedure Memorandum No. 30-3, issued October 15, 1966 and amendments and supplements thereto.

JLS:lf
12-1-67

(d) Upon completion of the project, Applicant will maintain the structure and all highway appurtenances thereto, including the cut slope between the easement boundaries and the centerline of the southerly railroad drainage ditch for the future track.

THINGS TO BE DONE BY RAILROAD:

(a) Subject to reimbursement by Applicant under Federal regulations as set forth in paragraph (c) under THINGS TO BE DONE BY APPLICANT, furnish such preliminary engineering, engineering inspection, watchmen and flagmen services as may be necessary to protect railroad operations during the period of construction of the project.

(b) Remove and protect the signal and communication lines during the same period and replace in final location under the structure upon completion of construction.

(c) At its own expense, maintain the railroad tracks with their appurtenances and facilities, including that area north of the centerline of the southerly drainage ditch to be constructed for the future track.

IX

That at all times after construction vertical and horizontal clearances will exceed the minimum standards set forth in the Public Utility Commissioner's Rules. However, during construction it will be necessary to have a restricted clearance of 24' minimum vertical clearance above base of rail and a 9'6" minimum horizontal clearance on the near column side of the main and spur tracks.

JLS:lf
11-30-67

X

That the proposed project is located in the SE¼NE¼ of Section 27, Township 13 South, Range 44 East, Willamette Meridian, Baker County, Oregon.

WHEREFORE, Applicant prays for an order authorizing said construction and allocation of costs thereof, in accordance herewith and for such other order or orders as may be proper in the premises.

Dated at Salem, Oregon this 1st day of December, 1967.

STATE OF OREGON, by and through
its State Highway Commission
G. E. ROHDE
Assistant Attorney General and Chief
Counsel for the State Highway Commission

By______________________________
Jack L. Sollis, Utilities & Railroad Attorney

STATE OF OREGON)
) ss
County of Marion)

I, IVAN D. MERCHANT, being first duly sworn, say that I am Bridge Engineer for the Oregon State Highway Commission and that the foregoing Application is true as I verily believe.

IVAN D. MERCHANT

Subscribed and sworn to before me this 1st day of December, 1967.

JACK L. SOLLIS

I certify that the above is a true and correct copy of the foregoing Application and the whole thereof.

JACK L. SOLLIS
Utilities & Railroad Attorney

RECEIVED
DEC 8 1967

Form FH-121 (4-67)

UNITED STATES GOVERNMENT

Memorandum

I 80N-7(5) - 11

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
477 Cottage St. NE. - Salem, OR 97301

DATE: December 1, 1967

In reply refer to: 08-35.6

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon
Attention: Mr. T. R. Edwards

FROM : A. W. Parsons, Division Engineer A.W. Parsons
Salem, Oregon

SUBJECT: Oregon Project I-80N-7(5)328
Preliminary Plans for Lime O'xing of UPRR & Old Oregon Trail Highway

Mr. Merchant's October 31, 1967 submission of preliminary plan sheets 19859 and 23509 for this structure have been reviewed in this office and are approved subject to the following:

> Our approval of the proposed structure with full Federal participation is contingent on adequate justification of the additional length of structure on the southerly end to accommodate the addition of a future UPRR track and future realignment of the railroad facilities. This justification must show that the railroad has a definite plan or show a potential demand for installation of additional tracks or revision of alignment as required in Paragraph 16 of PPM 21-10.

We note the type of columns proposed and question whether the slight batter of ¼ in 12 would be significant enough from an aesthetic standpoint to justify the increased cost involved particularly at this site where traffic on the old road will be very light. For this site we believe the use of straight round columns would be quite suitable.

As discussed recently with Mr. Edwards it is suggested you give consideration to using some off-shoulder treatment at undercrossing structures along the lines suggested in a paper presented at Salt Lake City by Mr. Loutzenheiser. While this site would not normally justify any extra effort or expenditure because of the low traffic on the old highway, it may be a good place to experiment with some special safety treatment. By varying the cross section at the structure it may be that some minor bridge shortening could be obtained to offset the extra cost of contour construction and underground drainage.

Copy- Joe Merchant
Young
12-8-67

NOTED
TOM EDWARDS

DEC 5 - 1967
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

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NOV 20 1967
FORM 2-30X—50M—7-66
FOR FILING

I-80N-7(25)341

SP*23657-734

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
November 16, 1967

SUBJECT: Lime O'Xing of the UPRR
Lime Section
Old Oregon Trail Highway
Baker County
Bridge No. 9354

To: Mr. G. E. Rohde
Chief Counsel

BUILDING

Attention: Jack L. Sollis

In the process of realigning and widening the present Old Oregon Trail Highway to meet the Interstate standards, it becomes necessary to cross the main line tracks of the Union Pacific Railroad Company, as well as the existing Old Oregon Trail Highway.

Twelve prints of Drawings Nos. 19859 and 23509, which are the Vicinity Map and Plan and Elevation Drawing, are attached and will be used as the exhibits in the application for a PUC Order.

The proposed structure is located in the SE¼NE¼ of Section 27, Township 13 South, Range 44 East, W.M., Baker County, Oregon. The right of way centerline of the roadway, which is approximately 3' westerly of the construction centerline, intersects the centerline of the existing main line track at R/W Station 663+39.10 P.O.S. equals R.R. Station 6418+54.2 P.O.S. with an intersecting angle of 42° 16' 30" tangent to tangent, and the centerline of the spur track at Hwy. Station 663+16.12 P.O.S. with an intersecting angle of 42° 02' tangent to tangent. Both intersecting angles are located in the Southwest Quadrant. The structure will be 458' in length consisting of 116', 135', 135' and 72' reinforced concrete box girder spans. The roadway width is 88' curb to curb, with no provision for pedestrian traffic.

The minimum clearances, both horizontal and vertical, are as shown on the Plan & Elevation Drawing and are greater than those required by the Public Utility Commission. It will be necessary during construction to reduce the vertical clearance to 24' above top of rail and the horizontal clearance to 9' 6" on the near column side of the main and spur tracks.

NOTED
TOM EDWARDS

[illegible] 17 1967
OFFICE OF [illegible]

The estimated average traffic on the overcrossing is approximately 2150 with an anticipated increase to 3750 vehicles per day in 20 years. The railroad movements at the site are 5 freight, 2 passenger westbound and 6 freight, 2 passenger and 4 helpers eastbound, making 19 movements per day.

This overcrossing is to be constructed with Federal and State funds and since the railroad will not benefit from the construction of this structure, no participation in the cost is requested from the railroad. Any necessary expenses incurred by the railroad in connection with the construction of the project will be reimbursed to the railroad as permitted by PPM 30-3 with amendments and additions thereto.

In this construction project, the State should do the following things: Prepare plans, specifications, award a contract and supervise construction. Upon completion of the project the State will maintain the structure and all highway appurtenances.

In this construction project the railroad should furnish preliminary engineering, watchman and flagman services to protect its operations during the construction period, remove and protect its signal and communication lines during the same period and replace them in final location upon completion of the construction and at its own cost and expense maintain their roadbed and trackage.

Will you please prepare an application for a PUC Order permitting this construction.

Theo. C. Roake
Assistant Bridge Engineer

TCR:jr

Attachments (12)

cc: Tom Edwards S ✓
T. W. Litchfield

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FORM E-123

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
DAVID B. SIMPSON, MEMBER
PORTLAND
FRED W. HILL, MEMBER
HELIX

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

I-80N-7(25)341
7185

November 16, 1967

Union Pacific Railroad Company
2525 N. Larrabee Street
Portland, Oregon 97227

Attention: Mr. W. G. Johnson
Superintendent

Subject: Lime O'Xing of the UPRR
Lime Section
Old Oregon Trail Highway
Baker County
Bridge No. 9354
Your File D 315-2-129

Gentlemen:

In the near future the State plans to improve the Old Oregon Trail Highway to meet Interstate standards. This will change the alignment of the highway near Lime, Baker County, which will necessitate crossing your company's track at Highway Station 663+39.10 equals Railroad Station 6418+54.2.

The preliminary plans have been sent to you for your inspection and in compliance with your request of March 31, 1967, we have provided room for the alteration or realignment of your tracks in the plans for the subject railroad overcrossing. We are attaching 4 prints of Drawing No. 19859 - the Vicinity Map, and Drawing No. 23509 - the Plan and Elevation of the overcrossing. The plans for this overcrossing have been materially revised so will you please disregard the previous design drawing sent you on April 9, 1965. It is planned to use the attached drawings as exhibits in our application for a PUC Order.

The new structure will have an 88' roadway and will be 458' long, consisting of 116', 135', 135' and 72' reinforced concrete box girder spans. The proposed railroad clearances are as shown on the Plan & Elevation Drawing. We are providing room for an off-track maintenance on the northerly side of the tracks.

The project will be financed entirely with Federal and State funds and your company will be reimbursed for any necessary expense incurred in connection with the construction of the project as outlined in PPM 30-3, with amendments and additions thereto.

In this construction project, the State will prepare plans, specifications, award the contract and supervise construction. On its completion, the State will maintain the overcrossing structure and other highway appurtenances.

Your company, subject to the requirements of PPM 30-3, should furnish preliminary engineering, watchman and flagman services to protect your operation during the construction period and remove and protect your signals and communication lines during the same period, replacing in final location upon completion of the construction, and at your own cost and expense maintain the roadbed and trackage.

After reviewing the attached prints, will you please return one print each with your comments and approval noted thereon.

Very truly yours,

Ivan D. Merchant
Bridge Engineer

TCR:jr
Attachments (4)

cc: Tom Edwards
T. W. Litchfield
G. E. Rohde
Attn: Jack L. Sollis

I 80N-7(16)3211
7185

UNION PACIFIC RAILROAD COMPANY
TRANSPORTATION DIVISION
DEPARTMENT OF OPERATION

W. G. JOHNSON
SUPERINTENDENT
OREGON DIVISION

2525 NO. LARRABEE AVE.
PORTLAND, OREGON 97227

NOVEMBER 3, 1967

(File Ref. D 315 - 2 - 129)

Routing
Morgan
Docker
Bond
Walker
Glenn
Swan
Pease E
Morelock
Trout
Scott
Wills
/ Litchfield
Olson

RECEIVED
NOV 1967
CONSTRUCTION
DIVISION

Mr. F. D. Morgan,
Construction Engineer
Oregon State Highway Department
Salem, Oregon 97310

Atten: Mr. T. W. Litchfield,
Utilities Liaison Engineer

Dear Sir:

Weatherby - Lime Section and Lime Section,
Old Oregon Trail Highway - Baker County -
Project No. I-80N-7(16)327

Reference is made to your letter of August 17, 1967 transmitting an advance set of State's encroachment maps and cross-section prints for the above-named sections of highway which the State intends to reconstruct to Interstate standards.

This office has looked over these prints and in line with comments made in my letter of October 10, 1967 concerning the Bubbs Ranch - Weatherby Section and my remarks hereafter, I ask that you please revise and submit new prints for my use in securing approval of the highway projects by our Management.

As indicated in my October 10 letter, adequate vehicular access to the railroad from the Interstate highway and the ability to move off-track equipment along the railroad are essential to our operations. The Railroad presently has the benefit of many points of access throughout this region, in some instances via private roads and in others direct from the highway. These access points are necessary for, as you know, we have an uncommon number of bridges in the area due to the topography, which must be maintained along with a tunnel and other facilities.

In view of this situation the State should provide in its plans, means by which the Railroad will have access from the new highway to ends of its bridges and tunnel. Presumably access will be available as a result of the State's proposed interchanges at Weatherby, Jordan Creek, Dixie and Lime, but these will not be sufficient to meet the Railroad's needs.

Since the State desires to limit access to its highway, suggest you consider providing in the highway plans for construction of parallel service roads to reduce the number of access points. In at least one area, namely, between the west end of Railroad Bridge 379.62 opposite approximate Highway Sta. 410 and the east end of Railroad Bridge 380.22 opposite Highway Sta. 446 approximate, it will be necessary to build the service road northerly of Burnt River. It is my understanding, however, that the State expects to have considerable waste materials from highway excavations which could be presumably utilized for construction of such roads.

In line with my October 10 letter, the State should provide for future railroad expansion and revise its plans so there will be no need, other than temporary for construction, to have highway easements within 40' of our main track center line. An examination of the preliminary cross-sections indicates revisions to the highway willbe required accordingly between the limits indicated below:

Highway	Stas.	341 - 345
"	"	444 - 450
"	"	550 - 557
"	"	560 - 562
"	"	564 - 570
"	"	591 - 602

With respect to State's drainage facilities it is noted that the culverts proposed at Highway Stas. 345+50, 550+90, 564+10 and 586+50 will not have adequate outlets unless extended under the Railroad's tracks and outlet ditches constructed. Possibly drainage from two or more of the highway culverts at the last three locations listed could be combined in a single facility.

Those comments made in my letter of October 10 concerning channel changes, highway-type guard rails, wasting excess excavation materials and rearrangement of our communications and signal facilities are applicable to these sections of the proposed highway and will therefore appreciate your handling accordingly. Will you further please show on State's plans how the State intends to provide for future realignment of the Railroad's tracks at overcrossing proposed west of Lime, Highway Sta. 663+39.10, Railroad Milepost 384.34. Future track locations were indicated on plan sheets covering the Lime Section and returned to you with my letter of March 31, 1967.

In line with the foregoing, will you kindly furnish the usual four (4) sets of Revised Prints and Plans.

Yours very truly,

W. D. Johnson
HBC

FORM E-123X 50M 7-66

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
KENNETH N. FRIDLEY, MEMBER
WASCO
DAVID B. SIMPSON, MEMBER
PORTLAND

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

RECEIVED
NOV 9 1967

FOR FILES
I-80N-7(25)341
1165

October 31, 1967

Mr. A. W. Parsons
Division Engineer
Bureau of Public Roads
477 Cottage St., N.E.
Salem, Oregon

Subject: Lime O'xing of UPRR
Lime Section
Old Oregon Trail Hwy.
Baker County
Br. No. 9354

Attention: Mr. Roy Tokerud

Gentlemen:

Enclosed herewith, are five prints each of Dwgs. Nos. 19859 and 23509, the vicinity map and preliminary plan and elevation drawing respectively, for the subject structure. Also enclosed, are two copies of the logs of the foundation investigation at the site.

As indicated on Dwg. No. 23509, a four-span continuous reinforced concrete box girder is proposed at this tie. This type of structure is particularly well-suited to the span lengths involved, which are fixed by the relative locations of the existing highway and the railroad tracks. The 4° curve and the skew of the bents can be most easily accommodated by a reinforced concrete box girder.

Openings will be provided in the falsework in Spans 2 and 3 in order to maintain traffic on the existing Old Oregon Trail Highway and the tracks of the Union Pacific Railroad. Excavation of the slope beneath Span 4 to provide for the future alignment of the tracks of the Union Pacific Railroad will be done at this time.

The estimated cost of the proposed structure, including a 20% allowance for engineering and contingencies is $810,000, based on approximate quantities.

The above data is transmitted herewith as a preliminary submission on this project for your comments and approval.

Very truly yours,

Ivan D. Merchant
Bridge Engineer

LLW/WH/mb
Encls.
cc: Mr. Tom Edwards
Mr. L. H. Young
Mr. C. H. Maison

NOTED
TOM EDWARDS

RECEIVED
AUG 23 1967

FOR FILING
I-80N-7(35) 2411
- 7185

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

August 17, 1967

Union Pacific Railroad Company
2525 North Larrabee Avenue
Portland Oregon

Attention: Mr. W. G. Johnson

Re: Revised Encroachment Map & Cross Sections
Bubbs Ranch-Weatherby Section
Weatherby-Lime Section & Lime Section
Old Oregon Trail Highway-Baker County
Project No. I-80N-7 (16) 327
YOUR FILE: D-315-2-129

Gentlemen:

Herewith you will find one print each of the following maps and cross sections for the above-captioned pection for your preliminary review and approval. All these maps bear the revised date of August, 1967, and reflect all of the changes you have requested us to incorporate in our design of this section of the Interstate Freeway.

Bubbs Ranch-Weatherby Section:

Encroachment Maps 8B-30-18 & 8B-30-25
Encroachment Cross Sections 8B-30-19, 8B-30-26 & 8B-30-26A

Weatherby-Lime Section:

Encroachment Map 8B-31-15
Encroachment Cross Sections 8B-31-16, 8B-31-16A & 8B-31-16B.

Lime Section:

Encroachment Map 8B-31-22
Encroachment Cross Sections 8B-31-23.

These maps do not show the proposed shoo-fly at Nelson Point. Plans for that are now on the drafting table and we expect to have them ready for your preliminary review in a week or two.

We understand you have made some investigations with regard to access requirements through the Burnt River Canyon, and we will be anxious to meet with you and review your proposals at an early date so that we may proceed with our final planning and contracting of these sections. Can you advise when you will be in a position to meet with us?

Very truly yours,

F. D. Morgan
Construction Engineer

By:

T. W. Litchfield
Utilities Liaison Engineer

Enclosure

TWL:ss

cc: A. W. Parsons
F. B. Klaboe
L. H. Young
I. D. Merchant
A. F. Parson
J. W. Valentine

RECEIVED
AUG 18 1967
OFFICE OF
STATE HIGHWAY ENGINEER

I-80N-7(25)341
185

UNION PACIFIC RAILROAD COMPANY
TRANSPORTATION DIVISION
DEPARTMENT OF OPERATION

W. G. JOHNSON
~~C. H. BAKER~~
SUPERINTENDENT
OREGON DIVISION

2525 NO. LARRABEE AVE.
PORTLAND 17, OREGON

March 31, 1967

File Ref: D 315 = 2 = 129

Routing
Morgan
Decker
Bond
Barbee
Walker
Clonn
Swe
Pease
Morelock
Trout
Scott
Wills
Litchfield ✓
Olson

RECEIVED
APR 5 1967
CONSTRUCTION
DIVISION

Mr. F. D. Morgan
Construction Engineer
Oregon State Highway Department
Salem, Oregon 97310

Attention: Mr. T. W. Litchfield
Utilities Liaison Engineer

Dear Sir:

Reference is made to Oregon State Highway Department's proposal to reconstruct the Lime Section of Old Oregon Trail Highway in Baker County to Interstate Standards.

Am returning herewith one set of the State's preliminary plans bearing approval of Mr. J. M. Bates on behalf of the Railroad's Chief Engineer subject to certain revisions indicated in red as follows:

Sheet No. 5

Between Highway Stations 660 and 670 an overcrossing of the Railroad's main line is proposed at our MP 384.34. As indicated in previous discussions and correspondence, the Railroad must consider your plans in light of future needs; and, accordingly, at this location it is requested that you provide for a future double track main line together with a side track and off-track equipment roadway as shown which will permit the Railroad to reduce its existing curvature to 5 degrees with 45 mph spirals. To meet our present needs we ask you to provide for an off-track roadway along the easterly side of our present trackage or adjacent to existing highway at this location. Overcrossing plans should also provide for our signal and communications pole lines and adequate drainage facilities along the railroad.

Sheet No. 7

Channel change in Burnt River proposed by the State in vicinity of Railroad Bridge 385.39 should have a minimum bottom width of 50 feet and a 100-foot minimum center line radius as indicated. The State's revision of the channel should also provide for a future track and off-track equipment roadway as shown. In the vicinity of Railroad MP 385.5 between Highway Stations 730 and 735, 18-inch and 36-inch culverts under the highway are proposed. The State should accordingly provide for installation of 30-inch and 36-inch culverts under the railroad to handle drainage discharged by the highway culverts. State's highway construction in this area should further take into consideration the Railroad's future needs with respect to an additional track and roadway as indicated.

Sheet No. 9

The State's proposed shift in the Burnt River channel in vicinity of Railroad Bridge 386.62 should allow for building an additional track and roadway along our existing main line as shown, and the channel should have a minimum bottom width of 50 feet and minimum center line radius of 100 feet.

From recent conversations with State's Engineers, understand the Highway Department intends to modify these plans and provide a box culvert in another location other than as shown on Sheet No. 8 to handle flow of Bridge Creek. Wish to advise the Railroad cannot approve any installation where the box culvert will be aiming flow of Bridge Creek at our track. Will you kindly arrange for modifications and submission of final plans in line with the foregoing.

Yours very truly,

W. D. Johnson

COPIES TO F. HALL W/PLANS FOR STUDY
W. HART

4-5-67
I

UNION PACIFIC RAILROAD COMPANY
TRANSPORTATION DIVISION
DEPARTMENT OF OPERATION

W. G. JOHNSON
SUPERINTENDENT
OREGON DIVISION

2525 NO. LARRABEE AVE.
PORTLAND, OREGON 97227

APRIL 29, 1965

(File Ref. D 315 - 2 - 129)

Mr. Ivan D. Merchant,
Bridge Engineer
Oregon State Highway Department
Salem, Oregon 97310

Dear Mr. Merchant:

This is to acknowledge your letter of April 9 and to affirm recent telephone discussions with this office relative to the State's proposal to construct an overpass for Interstate Highway 80N across Union Pacific Railroad Company tracks and right-of-way near Lime, Oregon.

In line with the discussions, wish to advise that Railroad approval of the overpass structure must await similar approval of other highway encroachments proposed by the State between Nelson and Lime, as the overpass is an integral part of the State's plans to reconstruct this section of the Old Oregon Trail Highway to Interstate standards.

As you know, the railroad closely parallels Burnt River for about 12 miles in this area in what is known as the Burnt River Canyon. Because of the Canyon's characteristics at time of railroad's construction, curves in grades were introduced which under present-day standards are not conducive with operations of a main line railroad. As a consequence, consideration has been given at various times to making line changes to improve the rail operations. While to date the Railroad has not thought that changes in location in the Canyon were economically justified, the situation still warrants the examination of the State's proposed construction with future railroad relocations in mind.

The scope of the highway project in itself would require quite a bit of time for review even if no railroad line changes were considered, since room must be reserved for such things as an additional future main line track and offtrack equipment roadway, in addition to providing for the Railroad's present track, signal, communication and other facilities. However, in view of the recent severe damage caused by heavy storm runoffs over other regions of the Northwest, we must now also consider the possibility of similar runoffs occurring in the Burnt River Canyon.

To make an adequate study it will therefore, as you can readily understand, require some time, and for this reason we ask the State to delay its Petition to the Public Utility Commissioner for construction of an overpass until the Railroad's requirements can be determined.

It is, of course, realized that the State desires to proceed with its highway program and accordingly all available time will be devoted to this project. On the other hand, we think that the State's Highway Department appreciates the possible ill effects to the economy of both the Railroad Co. and State of Oregon if the Railroad's main line service were to be suspended for any length of time. This could very well be the result of being confined in the Burnt River Canyon by the State's proposed Interstate highway construction without adequate provisions for improvement in the railroad location. Bearing these things in mind, will you please grant us sufficient time to make an adequate study of the situation before applying to the Commissioner for permission to build the overpass structure.

Yours very truly,

W. G. Johnson

W. G. Johnson

cc: Mr. T. W. Litchfield,
Utilities Liaison Engineer
Oregon State Highway Department
Salem, Oregon 97310

CONSTRUCTION DIVISION
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MAY 4 1965
NOTED-☐ ☐ ☐ ☐ ☐
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26-1181 Highlands Int.-Vista Ridge Tunnel 1969
Sec., Sunset Hwy. in Portland (Grad.,
#7186 pav., sign. & illum.) Folder #2

C&A. 36.98
~~C&A 3~~
C&A 3937
C&A 3933

5

#.7116

1859

OREGON TRANSPORTATION COMMISSION

OFFICE OF GLENN L. JACKSON • c/o Pacific Power and Light Co. • Medford, Oregon • 97501

TOM McCALL
GOVERNOR

COMMISSIONERS
GLENN L. JACKSON, Chairman
Medford
CARL O. FISHER, Vice Chairman
Eugene
ROBERT L. MITCHELL, Secretary
Portland
ROBERT E. VEATCH, Member
Klamath Falls
ANTHONY YTURRI, Member
Ontario

January 30, 1974

[illegible]

Mr. Loren D. McKinley
Executive Director
OMSI
4015 S.W. Canyon Road
Portland, Oregon 97221

Dear Loren:

Thank you very much for your letter of January 25 relative to the slide situation at OMSI.

The slide now appears to have been stabilized and the next question is whether or not to cover the area with dirt for replanting or leave as is. A number of people have indicated they thought it should be left with the rock exposure.

Your comments would be appreciated.

NOTED
F. B. KLABOE

Sincerely yours,

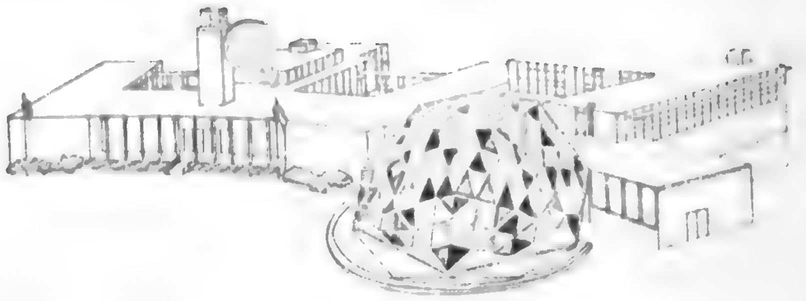
Glenn L. Jackson
Chairman

RECEIVED
STATE HWY ENGR
JAN 31 '74
REFER TO
FOR
Info Inves RID D/R Sign Act File

GLJ:cjk

omsi

OREGON MUSEUM OF SCIENCE & INDUSTRY
4015 S.W. Canyon Road Portland, Oregon 97221
224-9500



J.C. STEVENS, Founder

January 25, 1974

Mr. Glenn Jackson, Chairman
Oregon State Highway Department
State Highway Building
Salem, Oregon 97310

Dear Glenn:

At a recent Board meeting at the Oregon Museum of Science and Industry there was discussion about the past problem of the slide situation at OMSI and the Zoo.

When I reported to our Board that the problem apparently has been solved, thanks to the rock fill and other precautionary measures taken by the State Highway Commission, the Board suggested a resolution. The resolution is one of gratitude to you and the other members of the State Highway Commission who planned and executed the precautionary measures. May I add my personal thanks for your interest in this matter.

Sincerely,

Loren D. McKinley
Executive Director

LDM:dw
cc: Messrs. Clifford Moulton
Forrest Cooper ✓
R. L. Porter

RECEIVED
STATE HWY ENGR

JAN 28 '74

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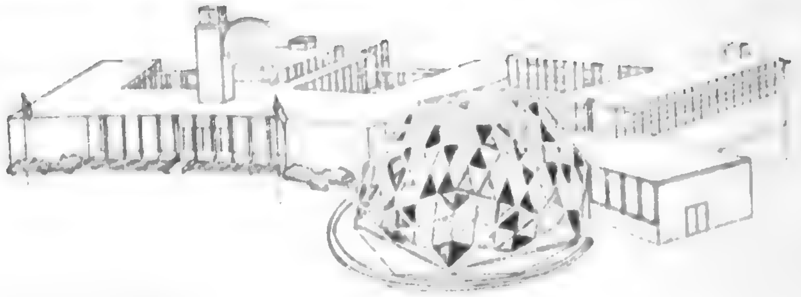
FOR

Info	[illegible]	[illegible]/D	D/R	Sign	Act	File

NOTED
A. E. JOHNSON

omsi

OREGON MUSEUM OF SCIENCE & INDUSTRY
4015 S.W. Canyon Road Portland, Oregon 97221
224-9500 J.C. STEVENS, Founder



January 25, 1974

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Oregon State Highway Department
State Highway Building
Salem, Oregon 97310

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When I reported to our Board that the problem apparently has been solved, thanks to the rock fill and other precautionary measures taken by the State Highway Commission, the Board suggested a resolution. The resolution is one of gratitude to you and the other members of the State Highway Commission who planned and executed the precautionary measures. May I add my personal thanks for your interest in this matter.

Sincerely,

Loren D. McKinley
Executive Director

LDM:dw
cc: Messrs. Clifford Moulton
Forrest Cooper ✓
R. L. Porter

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FOR
Info [illegible] MD D/R Sign Act File

NOTED
A. E. JOHNSON

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OCT 22 1971
FOR FILING

36-1181
7186

**OREGON STATE
HIGHWAY DIVISION**

METROPOLITAN SECTION
5821 N. E. Glisan Portland, Oregon 97213 Phone 229-6971

October 19, 1971

Ernest L. Scrivner
2043 Main Street
Baker, Oregon 97814

NOTED
A. E. Johnson

Dear Ernie:

As you know, the Asphalt Paving Association has judged the Highlands Interchange-Vista Ridge Tunnel to have the best asphaltic concrete pavement placed on State highways in Oregon during 1970 and 1971.

At the APA meeting in Eugene on October 15, 1971, I accepted on your behalf a plaque acknowledging your efforts in getting the fine paving job on that project and also received a second plaque which will decorate the Metro Office wall.

We appreciate the recognition by the APA of a fine finished product, but no plaque could begin to note the tremendous effort which went into achieving that result, nor depict the many difficulties overcome by yourself, your inspectors and crew.

We're forwarding your plaque to hang on your office wall, and I want you to know that Metro shares your pride in a job well done.

Very truly yours,

R. L. Schroeder
Metropolitan Engineer

RLS:cw
cc: H. S. Coulter
A. E. Johnson
F. D. Morgan

RECEIVED
OCT 20 1971
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
SEP 22 1971
FOR FILING

26-1171
7186

September 21, 1971

The Aetna Casualty & Surety Co.
Bond Department
1201 S. W. 12th Avenue
Portland, Oregon 97205

Gentlemen:

A post-final payment for $222.59 will be made to Peter Kiewit Sons' Company on Contract No. 7186 for work on the Highlands Interchange-Vista Ridge Tunnel Section of the Sunset Highway in Multnomah County as soon as the warrant is prepared.

The total amount paid on this contract will be $2,856,390.51 including the post-final payment. Of the total, $49,918.62 is for force account.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

kl

cc Peter Kiewit Sons' Company
215 S. "V" Street
Vancouver, Washington 98663

bc F. D. Morgan
I. D. Merchant
V. E. Skoog
Attn: John Kerr
L. W. Sullan

RECEIVED
JUL 29 1971
FOR FILING

26-1181

7186

July 29, 1971

The Aetna Casualty & Surety Co.
Bond Department
1201 S.W. 12th Avenue
Portland, Oregon 97205

Gentlemen:

On May 20, 1971, we wrote to you concerning release of final payment on Contract No. 7186 awarded to Peter Kiewit Sons' Company, for work on the Highlands Interchange-Vista Ridge Tunnel Section of the Sunset Highway in Multnomah County.

Final payment on this contract is $8,265.19 and the total contract amount is $2,856,167.92, including $49,918.62 for work performed under force account.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

sas

cc Peter Kiewit Sons' Co.
215 S. "V" Street
Vancouver, Washington 98663

bc:Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Herr
L. W. Rulien

RECEIVED
AUG 25 1971
FOR FILING

26-1181
7186

July 28, 1971

#3

Peter Kiewit Sons' Co.
215 S. "V" Street
Vancouver, Washington 98663

Gentlemen:

The State Highway Commission at its meeting on July 27 considered your request for a further extension of time on Contract No. 7186 for work on the Highlands Interchange-Vista Ridge Tunnel Section of the Sunset Highway in Multnomah County.

The Commission granted an extension to the date of completion, April 28, 1971, thereby deleting all liquidated damages.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

sas

bc: F. D. Morgan
V. E. Skoog
R. L. Schroeder
L. W. Rulien
E. L. Scrivner

RECEIVED
JUL 14 1971
FOR FILING

26-1191
7186

July 14, 1971

Oregon State Highway Commission

Request for Extension of Time
No. 3
July 27, 1971 meeting

Gentlemen:

Peter Kiewit Sons' Company has requested a further extension of the contract time on the Highlands Interchange-Vista Ridge Tunnel Section of the Sunset Highway in Portland, Contract No. 7186.

At your February 16, 1971 meeting, an extension was granted to February 15, 1971. It was the intent of that extension to delete all liquidated damages and it was estimated that the small amount of lightpole painting would be completed. Actually, the project remained under a stop work order awaiting suitable painting weather until April 24, 1971, immediately after which the painting was promptly completed and the official project completion date is April 28, 1971.

It is recommended that the specified completion date be extended to April 28, 1971, to formally delete all liquidated damages. This was a State project not requiring Federal Highway Administration concurrence.

This matter will be on the agenda for your consideration at the July 27 meeting.

Very truly yours,

R. L. Porter
State Highway Engineer

cc Floyd Query
Tom Edwards
A. E. Johnson
Victor D. Wolfe
F. D. Morgan
V. E. Skoog
L. H. Young
R. L. Schroeder
L. W. Rulien

JAB:fw fn

FORM E-30

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
July 9, 1971

SUBJECT: Highlands Interchange-Vista
Ridge Tunnel Section
Contract No. 7186

To:

Mr. A. E. Johnson
Assistant State Highway Engineer
BUILDING

We should again formally extend the contract time on this project. In January, an extension was processed while the project was still under a stop work order awaiting suitable weather to complete a small amount of lightpole painting. It was estimated and hoped that the small amount of remaining work would be complete by February 15, so the specified calendar completion date was extended to February 15, 1971 accordingly.

The weather did not cooperate so that the project remained under stop work order until April 24. The painting was immediately completed and the official project completion date of record is April 28, 1971. It was the intent of this last time extension action to delete all liquidated damages. Since this project is under the old specifications, we should keep the records clear by extending completion to April 28, 1971.

A rough draft to the Highway Commission is attached for this purpose. This was a State project.

F. D. Morgan
Construction Engineer

By John A. Bond

John A. Bond
Construction Administration Engineer

JAB:fw
Attach.
cc V. L. Gallagher

RECEIVED
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[illegible]
STATE HIGHWAY ENGINEER

METROPOLITAN ENGINEER
RECEIVED
JUL 6 - 1971
☐ ME ☐ AME ☐ AME ☐ MOE ☐ MDE ☐ MTE

PETER KIEWIT SONS' CO.
CONTRACTORS
ESTABLISHED 1884

MAIN OFFICE: OMAHA, NEBR. 68131
1000 KIEWIT PLAZA

ADDRESS REPLY TO:

P. O. Box 1635
Walla Walla, Washington
99362

June 30, 1971

Oregon State Highway Department
5821 N. E. Glisan Street
Portland, Oregon 97213

Attention: Mr. Hal Versteeg
Ass't. Metropolitan Eng.

Re: OSHD Contract No. 7186
PKS Job No. 4092
Highlands Interchange
Vista Ridge Tunnel Section
Serial Letter No. V-83

Gentlemen:

In accordance with the standard specifications for the above referenced project, Section 8-8, we request a time extension for completion of the project of 802 days (July 1, 1970 through April 28, 1971).

Time extension required to complete project is due to the following: temporary suspension of work, delays (due to slides), changes in plans, and quantities of work.

An itemization of the time for the various changes:

1)	See our letter V-72 dated November 18, 1970	192 days
2)	Stop work order issued October 19, 1970, through April 26, 1971, when resume work order was issued	189 days
3)	Complete installation and painting of light poles installed under EWO #30 April 26 through April 28, 1971-	2 days
		383 days

We need approval of only 302 days of the above 383 to carry us to date of final completion.

All contract work is complete at this time.

The Ætna Casualty and Surety Company

by
Kenneth C. Kraig, Attorney-in-Fact

Very truly yours,

PETER KIEWIT SONS COMPANY

Norman V. McKibben
Area Manager

Enclosure
cc: OSHD (4)
Vancouver
Job - File

METROPOLITAN ENGINEER
RECEIVED
JUL 6 - 1971
☐ ME ☐ AME ☐ AME ☒ MOE ☐ MOE ☐ MTE

PETER KIEWIT SONS' CO.
CONTRACTORS
ESTABLISHED 1884

MAIN OFFICE: OMAHA, NEBR. 68131
1000 KIEWIT PLAZA

ADDRESS REPLY TO:

P. O. Box 1635
Walla Walla, Washington
99362

June 30, 1971

Oregon State Highway Department
5821 N. E. Glisan Street
Portland, Oregon 97213

Re: OSHD Contract No. 7186
PKS Job No. 4092
Highlands Interchange
Vista Ridge Tunnel Section
Serial Letter No. V-83

Attention: Mr. Hal Versteeg
Ass't. Metropolitan Eng.

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All contract work is complete at this time.

The Ætna Casualty and Surety Company

by
Kenneth C. Kraig, Attorney-in-Fact

Very truly yours,

PETER KIEWIT SONS COMPANY

Norman V. McKibben
Area Manager

Enclosure
cc: OSHD (4)
Vancouver
Job - File

November 18, 1970

Oregon State Highway Department
5821 N. E. Glisan Street
Portland, Oregon 97213

Attention: Mr. Ernest L. Scrivner
Resident Engineer

Re: OSHD Contract No. 7186
Highlands Interchange -
Vista Ridge Tunnel Section
Serial Letter V-72
Vista Job No. 4092

Gentlemen:

In accordance with the standard specifications for the above referenced project, Section 8-8, we request a time extension for Stage IV completion of 85 days (from October 1, 1969 thru December 24, 1969) when the liquidated damages were stopped. Part of this time, 42 days, has already been allowed.

Also, we request a time extension for the completion of the above referenced project of 184 days. A breakdown of the time extensions requested is as follows:

Time extension required to complete project through Stage IV is due to the following changed conditions: Temporary suspension of work, delays (due to slides) changes in plans and quantities of work, and other contractors.

An itemization of the time for the various changes:

1.	Extra Work Order #3 (Slide Removal Work) on December 17 and December 18, 1968.	2 Days
2.	Shutdown order issued by Oregon State Highway Department December 27, 1968.	1 Day
3.	Shutdown orderdue to inclement weather, December 30, 1968 to February 10, 1969. (Approved by the Oregon State Highway Department November 26, 1969)	42 Days
4.	Extra Work Order #4 (Placing Wire Mesh on Stage I Cut Slopes) March 3 - 5, 1969.	3 Days

5.	Shutdown order issued by Oregon State Highway Department June 14, 1969. (Due to anticipated heavy Rose Festival traffic).	1 Day
6.	Extra Work Order #8 (Construct Tanner Creek Sewer Supports under Retaining Wall #2) July 30, 1969 thru August 12, 1969.	13 Days
7.	Strike of the Masters, Mates & Pilots, which shutdown concrete plants and delayed pouring on our Retaining Wall work. July 31, 1969 thru August 5, 1969.	6 Days
8.	Added Retaining Wall (9912) constructed partially under Price Agreement #8 and Extra Work Order #13. October 21, 1969 thru November 7, 1969 and November 13, 1969, and November 25 - 26, 1969.	20 Days
9.	Delay caused by the tunnel contractor not having sewer pipe installed on OS line (vicinity OS40+50). Contractor was supposed to move in September 23, 1969. Moved in to do work September 26, 1969. Did not complete work and make OS line accessible to us until October 3, 1969.	3 Days
	Total	91 Days

Time extension required to complete project is due to the following changed conditions: Temporary suspension of work, delays (due to slides), changes in plans and quantities of work, and other contractors.

An itemization of the time for the various changes:

1.	Time extension to complete Stage IV construction	91 Days
2.	Price Agreement #11 (Zoo Buttress) May 18, 1970 thru August 4, 1970.	85 Days
3.	Install sewer pipe due to construction of Zoo Buttress. May 1, 1970 thru May 6, 1970.	6 Days
4.	Extra Work Order #18. Work to keep Canyon Road open after rainstorm of January 22, 1970. January 23 and 24, 1970.	2 Days

5.	Extra Work Order #28: Remove Median Barrier Prior to Paving.	2 Days
6.	Price Agreement #14 (Construct two trash rack cribs) and Extra Work Order #3 (Excavate, Repair, Backfill "O" Inlet Covered by Slide). October 12 thru October 17, 1970.	6 Days
	Total	192 Days

All contract work is complete at this time, except for some painting of light poles. The time extensions have pushed the light poles into inclement weather and time should not be charged on the painting until good weather in the spring. We will try to finish painting on a daily basis this winter.

Yours very truly,

PETER KIEWIT SONS' CO.

Norman V. McKibben
Area Manager

NVM/hms

cc: Res. Eng. (3)
Job
File

RECEIVED
MAY 19 1971
FOR FILING

[illegible]
7186

May 18, 1971

Oregon State Highway Commission

Gentlemen:

Work was completed April 28, 1971 on Contract No. 7186. The contract was with Peter Kiewit Sons' Company and was for grading, paving and signing on the Highlands Interchange-Vista Ridge Tunnel Section of the Sunset Highway in Multnomah County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective May 18, 1971 and that you concur in this procedure at the Commission meeting on June 22, 1971.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

R. L. Porter
State Highway Engineer

cc: Floyd Query
Tom Edwards
A. E. Johnson
V. D. Wolfe
F. D. Morgan
I. D. Merchant
V. E. Skoog
L. H. Young
R. L. Schroeder

VG:fw

5

26-1181
7186

FORM E-1 (REV. 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: Highlands Interchange - Vista Ridge Tunnel
WEEK ENDING: May 1, 1971
SECTION PREFIX: 26-1181
HIGHWAY: Sunset
COUNTY: Multnomah
NAME OF JOB: Highlands Interchange-Vista Ridge Tunnel
KIND OF WORK: Grading, Paving, Signing & Illumination
CONTRACTOR: Peter Kiewit Sons' Co.
CONTRACT NUMBER: 7186
FEDERAL AID PROJECT NUMBER: State
DATE OF CONTRACT: October 14, 1968
DATE WORK STARTED: November 4, 1968
ESTIMATED COMPLETION DATE: -
AVERAGE FORCE ON PROJECT FOR THE WEEK: MEN: 2 SUPERVISION: 0
SPECIFIED WORK DAYS:
SPECIFIED CALENDAR DAYS: 625
WORK DAYS USED:
CALENDAR DAYS USED: 738
SPECIFIED COMPLETION DATE: Stage IV Sept. 30, 1969
Final June 30, 1970
PERCENT OF TIME ELAPSED: 118
PROJECT AUTHORIZATION: $ 3,302,564
EXCLUSIVE OF ENGINEERING: $ 3,017,601
ENGINEERING AUTHORIZATION: $ 284,963
PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 100
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 2,942,581
ENGINEERING COST TO DATE: $ 293,000
PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 98
ESTIMATED PERCENT: ~~OVERRUN~~ UNDERRUN 2 %
PERCENT OF AUTHORIZATION: 103 %
DATE PROJECT WAS COMPLETED: Stage IV Dec. 24, 1969
Final - April 28, 1971

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD.	Sign.& Illum.	Buttress
100	100	100	100	100		100	100

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT	1.38	1.38		1.38	1.38
MILES PARTIALLY COMPLETED	1.38	1.38		1.38	1.38
MILES COMPLETED	1.38	1.38		1.38	1.38
TOTAL ESTIMATED QUANTITIES (CONTRACT)	332,306 CY	63,500 ton		26,200 ton	22,000 ton
TOTAL QUANTITIES CORRECTED TO DATE	259,370 CY	59,518 ton		22,859 ton	22,269 ton
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE	259,370 CY	59,518 ton		22,859 ton	22,269 ton
AVERAGE DAILY QUANTITIES	0	0		0	0
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME	-	-		-	-
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:

1 Ladder truck, 1 Pickup.

ESTIMATED PERCENT COMPLETE (STRUCTURES)

wall ~~BRIDGE~~ NO.	1	2	3	4	9856	9856A	9912	
PERCENT	deleted	100	100	deleted	100	100	100	

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY	Ptly Cldy, Mild			
MONDAY	Fair, Mild			Routing
TUESDAY	Cloudy, Mild			E
WEDNESDAY	" "			Bond
THURSDAY	O'cast, Warm			Boehme
FRIDAY	" "			Johnsen CONSTRUCTION DIVISION
SATURDAY				BEN GIFFORD

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY Apr. 25	No activity.
MONDAY Apr. 26	Painting permanent light poles.
TUESDAY Apr. 27	Painting permanent light poles.
WEDNESDAY Apr. 28	Completed painting light poles, service cabinets and meter bases. This completes all contract work on project.
THURSDAY Apr. 29	No activity.
FRIDAY Apr. 30	No activity.
SATURDAY May 1	No activity.

REMARKS

Completed painting of light poles, service cabinets and meter bases.

All contract work on project now 100% complete. Anticipate to submit Semi-Final estimate next week.

SIGNED William C. Anthony LOCATION Portland
for Roy T. Heinz, Res. Engr.

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

RECEIVED
MAR 30 1971

FOR FILING

26-1181

7186

3 f

#1 2-16-71

February 18, 1971

Peter Kiewit Sons' Company
215 S. "V" Street
Vancouver, Washington 98663

Gentlemen:

The State Highway Commission at its meeting on February 16 granted you an extension of time to February 15, 1971, eliminating all liquidated damages, on Contract No. 7186 for work on the Highlands Interchange-Vista Ridge Tunnel Section of the Sunset Highway in Multnomah County.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

dr

cc F. D. Morgan
V. E. Skoog
R. L. Schroeder
L. W. Rulien
E. L. Scrivner

FORM E-30 (REV. 10-69)

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
January 15, 1971

SUBJECT: Highlands Interchange-Vista
Ridge Tunnel Section
Contract No. 7186
Contract Time Extension

To:

Mr. A. E. Johnson
Assistant State Highway Engineer
BUILDING

Peter Kiewit Sons' Company requests an extension of the contract time which would delete all time liquidated damages. The request is in two parts since this contract has a two-phase completion requirement. The contractor claims 91 days extension on the early phase (Unit "A") is justified but actually he has duplicated a 42-day shutdown period which has already been covered by a formal time extension. This would leave 49 days in the contractor's request which is based on added work, a strike and delay from alleged late completion of a sewer line by another contractor on an adjacent project. There are actually only 43 days liquidated damages in effect on Unit "A" amounting to $8,600.

The second part of the request then covers the overall completion requirement (Unit "B"). This includes the same delays caused by the first part plus other added Price Agreements or Extra Work Orders. There are actually only 111 days liquidated damages accrued on this overall completion requirement up to a current stop work order, pending completion of some light poles (There are 4 more to install and paint 4 coats and several others to paint only). A very few days could still accrue. The latest weekly report shows an estimated completion date of February 1. Attached is a tabulation of the pertinent dates showing the accrual of the time on this project which was set up with specified completion dates in an effort to get the earliest feasible use of an entire new facility which was built under several different contracts, the subject one being the last.

I do not believe it is necessary to go into detail on every one of the contractor's reasons. On the early phase, two added orders are significant. Price Agreement No. 8 added an additional retaining wall in October of 1969. This was late in the Unit "A" work. Extra Work Order No. 13 was added at this same time and also covered part of the retaining wall work. Extra Work Order No. 8 also added some retaining wall work (extra vertical supports to protect a storm sewer below). The retaining wall work was critical to the completion of the early phase, the whole point of which was to get the walls done during the best summary conditions. There was a net increase of $39,776, or 44 percent in wall work. We recommend an additional 43 days extension on Unit "A" which would delete all liquidated damages. This 43 days would also apply to the overall completion.

The significant change affecting the overall completion requirement is Price Agreement No. 11 which covered the construction of the OMSI Zoo Buttress on which the actual cost came to $566,000. This work was done in 1970 and constituted the main work accomplished through an extended period from May 15 to August 5 or 82 days. After allowing the 43 days recommended above toward the overall completion, there are 68 days liquidated damages remaining. We believe the buttress work justifies extension for this time which would extend the overall completion date to October 10, 1970, the effective date of the stop work order which is still in force.

It would be desirable to have this extension cover all the time needed and thereby avoid another formal request and submission to the Commission to cover only a small amount of time that might accrue when the current stop work order is lifted. I have re-checked with Metro and the completion is difficult to forecast yet. I suggest we recommend extension to February 15, 1970. This was a State project. A rough draft letter to the Highway Commission is attached.

F. D. Morgan
Construction Engineer

By

John A. Bond
Construction Administration Engineer

JAB:fw
Attach.
cc V. L. Gallagher

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JAN 19 1971
OFFICE OF
STATE HIGHWAY ENGINEER

HIGHLANDS INTERCHANGE-VISTA RIDGE TUNNEL SECTION
CONTRACT NO. 7186

ELAPSED TIME

Date Bids Opened:	October 3, 1968
Date of Award	October 14, 1968
Date Work Started	November 4, 1968
Date Work Completed	
Specified Completion:	(a) 9-30-69 (b) 6-30-70 Unit "A" Time extended to 11-11-69 by Commission on November 18, 1969.

Ordered Stop Time:

Date work stopped:	12-30-68)	42 days	)	(This 42 days was covered by the extension noted above)
Date work resumed:	2-10-69)		)	
			)	43 days
Date work stopped:	6-14-69)	1 day	)	
Date work resumed:	6-15-69)		)	
Date work stopped: (Still under stop work order)	10-19-70)	?		(74 days to date)

Days elapsed beyond specified completion dates:

Unit "A"

Extended completion date:	11-11-69)	43 days @ $200 = $8,600
Completion Date	12-24-69)	

Unit "B"

Specified Completion	6-30-70)	111 days (to 10-19-70)
Actual Completion	)	(Stop work order still in effect) @$300 = $33,300

JAB:fw
12-31-70

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FORM 2-30 (REV. 10-60)

FOR FILING
71-1181
7186

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon
February 5, 1971

SUBJECT: OMSI-Zoo Slide
Canyon Rd. Project

To: Mr. A. E. Johnson
Assistant State Hwy. Engr.
Salem

2-11-71

Hal: Ed Johnson will attend this conference. I would encourage you to participate — travel can be done on regional basis — @ in state expenses. AE

A report on the construction of the OMSI-Zoo slide buttress was presented to the ASCE Soils & Foundation Technical group at their regular meeting in Portland on February 3, 1971. Mr. Radley L. Squier, Shannon & Wilson, has suggested that a second presentation be made in Boise to a similar group on April 8, 1971. No final decision on this suggestion has been made at this time.

R. L. Schroeder
Metropolitan Engineer

by

J H Versteeg

J. H. Versteeg
Assistant Metropolitan Engineer

JHV:lh

Orig returned to Versteeg 2-12

cy: Ed Johnson 2-12-71

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FEB 8 1971
OFFICE OF
STATE HIGHWAY ENGINEER

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January 29, 1971

Oregon State Highway Commission

Request for Extension of Time
No. 1
February 16, 1971 meeting

Gentlemen:

Peter Kiewit Sons' Company has requested an extension of the contract time on the Highlands Interchange-Vista Ridge Tunnel Section of the Sunset Highway in Portland, Contract No. 7186. This was a fixed-date contract with specified completion dates of September 30, 1969 for Unit "A" and June 30, 1970 for Unit "B".

Two unusual occurrences were experienced on this project. First, certain retaining work necessary to the job completion was increased in the amount of 44 percent. An additional 43 days were required to accomplish this phase of the work, and the job could not progress until the work had been completed. The second facet was the addition of the slide control buttress in the OMSI area in the amount of $366,000. In addition, we have issued certain stop work orders so that traffic might not be inconvenienced.

This project was expertly handled. Traffic was not inconvenienced in any way beyond that absolutely necessary to complete the project.

I recommend that the completion date be extended to February 15, 1971, which will remove all liquidated damages. This is a State project not requiring Federal concurrence.

The matter will be on the agenda for your consideration at the February 16 meeting.

Very truly yours,

R. L. Porter
State Highway Engineer

cc Floyd Query
Tom Edwards
F. B. Klaboe
Victor D. Wolfe
F. D. Morgan
L. H. Young
V. E. Skoog
L. W. Rulien
R. L. Schroeder

JAB:fw TE:ms fn

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OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE
Salem, Oregon
December 17, 1970

SUBJECT: Sign Bridge 9835
Highlands Interchange-Vista
Ridge Tunnel Section
Contract No. 7186

To:
Mr. R. L. Schroeder
Metropolitan Engineer
State Highway Division
5821 N. E. Glisan Street
Portland, Oregon 97213

ATTENTION: Mr. J. H. Versteeg

NOTED
A. E. JOHNSON

Your letter of this date has been reviewed with Assistant State Highway Engineer Al Johnson and we have been requested to proceed under your Plan No. 2 as summarized in the last paragraph of your letter. Under this procedure, the new sign bridge will be obtained and installed as a State force item.

This will allow Maintenance to go ahead and install their existing 140-foot sign bridge as it was intended in the location east of Milwaukie. In accordance with our phone conversation, we are adding this sign bridge item in the amount of $22,000 to State Force Order No. 10 which covers other signing on the subject project. This order was only recently received and the approved copies have not yet been released.

We understand that you will proceed with the arrangements with Maintenance for ordering the required new sign bridge and scheduling its installation.

F. D. Morgan
Construction Engineer

By

John A. Bond
Construction Administration Engineer

JAB:fw

cc: A. E. Johnson
R. N. Bothman
L. W. Rulien

RE
ENGINEER

NOV 24 1970

26-1181

7146

November 20, 1970

Prof. W. L. Schroeder
Department of Civil Engineering
Oregon State University
Corvallis, Oregon 97331

Dear Professor Schroeder:

Reference is made to your November 6 letter addressed to F. B. Klaboe regarding a proposed program on the history and correction of the OMSI landslide in Portland to be presented to the ASCE Soils and Foundation Technical Group.

We have no objection to such a program and suggest that the presentation be given by J. H. Versteeg, Metropolitan Construction Design Engineer in Portland, together with Rod Squier of Shannon and Wilson. Mr. Versteeg is prepared to give history of the slide area as far as the Highway Division is concerned and would have available colored slides of the correction operations if you so desire. I am sure Mr. Squier would be the logical person to give a presentation of Shannon and Wilson's approach to the corrective measures.

For further details, I suggest that you contact Mr. Versteeg at 5821 N. E. Glisan Street, Portland 97213, telephone 229-6945.

Very truly yours,

R. L. Porter
State Highway Engineer

By

A. E. Johnson
Assistant State Highway Engineer

AEJ:mm
cc Rod Squier
J. H. Versteeg
bc R. L. Porter
Tom Edwards
F. B. Klaboe

OSU

OREGON STATE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

CORVALLIS, OREGON 97331

November 6, 1970

Mr. F. B. Klaboe
Assistant State Highway Engineer
Oregon State Highway Department
Highway Building
Salem, Oregon

Dear Mr. Klaboe:

During your conference here Thursday Dick Bell spoke with you concerning the possibility that a program on the history and correction of the OMSI landslide in Portland might be presented to the ASCE Soils and Foundations Technical Group. I understand that you indicated that the Highway Department would most likely be willing to release the information in its files for this purpose and possibly even present the program. Rad Squier of Shannon and Wilson would be willing to participate also; either in a joint effort or as the speaker. His participation is of course dependent on Highway Department approval.

If you are able to give the go-ahead to this program and could furnish me with the name of the person to contact, I will proceed with making the necessary arrangements. The meeting I have in mind is scheduled for February 3, 1971 but this could be changed to accommodate conflicts.

Very truly yours,

W. L. Schroeder
Associate Professor

WLS/j
cc: Rad Squier

NOTED
A. E. Johnson

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STATE HIGHWAY ENGINEER

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OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
November 12, 1970

SUBJECT: Highlands Interchange-
Vista Ridge Tunnel
Sunset Highway
Contract No. 7186

To: F. D. Morgan
Construction Engineer
State Highway Building
Salem

ATTENTION: John Bond

A trash rack left of Station 74+00 was buried by a slide in 1968. This slide was caused by a broken City sanitary sewer above the Canyon Road project. Recently Peter Kiewit Sons' uncovered the trash rack and raised it some six or eight feet on an Extra Work Order. It is now functioning properly and the drainage has been controlled.

Some additional earthwork needs to be done to properly complete the installation. Because this area is wet and unstable the additional work will be done next summer by state forces. We have discussed this assignment with Mr. Huntley and Mr. A. E. Johnson.

This trash rack was constructed under a prior contract so it is not considered Peter Kiewit's responsibility.

Robert L. Schroeder
Metropolitan Engineer

By:

ORIGINAL SIGNED BY
[illegible]

J. H. Versteeg
Assistant Metropolitan Engineer

JHV:pb

cc: A. E. Johnson
Phil Huntley
E. L. Scrivner

NOTED
A. E. JOHNSON

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OFFICE OF
STATE HIGHWAY ENGINEER

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MAY 9 1970
FORM E-30 (REV. 10-69)

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon
November 4, 1970

SUBJECT: Malarkey Unstable Slope
Station 81-82
Vista Ridge Tunnel-Highlands
Interchange
Sunset Highway

To: Mr. F. D. Morgan
Construction Engineer
Salem

A meeting was held at 2909 and 2919 S. W. Upper Drive on November 2, 1970, to inspect earth slippage above S. W. Canyon Road. Present were Mr. Malarkey, owner; Mr. Watson, contractor; Mr. John Sabin, Attorney; and Dr. Louise Clancy and her sister. Ray Cruden represented the City, and Ernie Scrivner, Dan Gano and Hal Versteeg represented the OSHD. Mr. Malarkey had requested the meeting and was interested in possible solutions to their problem.

Dr. Clancy went into considerable detail about a large slide in 1956. They lost their drainage field, the basement in the Malarkey home was damaged, and another house up the hill lost a portion of its foundation. In 1957 a Mr. Watts drove a series of six-inch H piling through the overburden into the rock below. These piling are six feet apart in a relative straight line and don't appear to have moved.

On the Canyon Road side there are numerous signs of active earth movement. There are open cracks, settlement, trees out of plumb, etc. Neither of the two homes appeared to be affected at this time.

Mr. Gano suggested that a soils consulting firm would best be able to assist them. It would take considerable investigation to determine the size of the area, depth instability and recommend possible solutions.

This group were friendly but concerned about their problem. I would expect we will hear from their attorney at a later date. The blasting in the tunnel was mentioned twice by Dr. Clancy as a related cause.

These properties are left or southerly of "L" Stations 81+00 and 82+00. We have filled approximately 18 feet over the old roadbed at this location on the present contract. This should have added greatly to the stability of the slope below the Clancy and Malarkey properties. We do not plan to investigate this problem any further at this time.

R. L. Schroeder
Metropolitan Engineer
by
ORIGINAL SIGNED BY
J. H. VERSTEEG
J. H. Versteeg
Assistant Metropolitan Engineer

NOTED
A. E. JOHNSON

JHV:lh
cc: A. E. Johnson, W/ Attach. ✓
Dan Gano, W/Attach.
Phil Huntley, W/Attach.
Jack Sollis, W/Attach.
E. L. Scrivner
Ray Cruden

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NOV 6 1970
OFFICE OF
STATE HIGHWAY ENGINEER

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NOV 5 - 1970

26-1181
7186

November 2, 1970

Mr. Robert L. Nordlander
Director of Public Works
Multnomah County
2115 S. E. Morrison Street
Portland, Oregon 97214

Dear Mr. Nordlander:

Re: Rock Creek Road
Highlands Interchange-Vista Ridge
Tunnel Section, Sunset Highway (Contract No. 7186)

Your September 18 letter to James H. Versteeg, Assistant Metropolitan Engineer, has been forwarded to this office for further consideration.

Our contractor on the Highlands Interchange-Vista Ridge Tunnel Section utilized the State's Krueger Quarry as a source of buttress rock material in constructing the added corrective work at the Zoo Slide on Canyon Road last summer. Some material from this source was also utilized earlier for roadway embankment on this same project.

We are most reluctant to sanction the requested payment for maintenance of the approximately one-half mile of county road which provides access to the quarry. In the absence of any prior notice of the need for the maintenance work and with no documentation of the condition of the road before and after the hauling, we have a very poor basis to justify such an expenditure.

We regret that we must decline the maintenance reimbursement but will make an effort in the future to clarify the roadway maintenance obligation before the State quarry is used extensively. I am glad to note that this was done very recently when arrangements were made for the R. A. Heintz Construction Company to utilize the State quarry as a source of materials for the Columbia County Line-Burlington Section of the Columbia River Highway.

Very truly yours,

R. L. Porter
State Highway Engineer

By

A. E. Johnson ms
Assistant State Highway Engineer

cc R. L. Porter
Tom Edwards
F. D. Morgan
R. L. Schroeder
L. W. Rulien

JAB:fw ms

FORM 2-30 (REV. 10-69)

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
October 23, 1970

SUBJECT: Rock Creek Road
Surface Damage
Highlands Interchange-
Vista Ridge Tunnel Section
Sunset Highway

To: F. D. Morgan
Construction
State Highway Building
Salem

ATTENTION: John Bond

I have discussed the maintenance repair work on Rock Creek Road with Mr. Nordlander. All the repair work has been done for sometime and the only item left is the $1,500 cost for the work.

Mr. Nordlander explained that they regularly collect fees from every one, public or private, for the damage due to pipe laying, construction, etc. Rock Creek Road is the only one in Multnomah County that they have experienced this surfacing problem with due to heavy usage. Whenever materials are removed from Krueger's Quary, the road has to be repaired. Otherwise, it serves the area's needs adequately.

This is not a great deal of money but the final cost of such a precedent would be considerable. It would also lead to disagreements with other agencies whether we did enough or paid enough to compensate them for damages sustained.

Robert L. Schroeder
Metropolitan Engineer

By:

J. H. Versteeg

J. H. Versteeg
Assistant Metropolitan Engineer

NOTED
A. E. JOHNSON

JHV:pb

cc: E. L. Scrivner

10/26/70
copy to Johnson
per John Bond
FW

Routing
Morgan
Decker
1 Bond D
Walker
Boehme
Johnson

RECEIVED
OCT 26 1970
CONSTRUCTION
DIVISION

Pease E
Swan
Glenn
Litchfield
Gallagher
Stout

SP*82478-734

COUNTY COMMISSIONERS
M. JAMES GLEASON, Chairman
L. W. AYLSWORTH
DAVID ECCLES
DONALD E. CLARK
MEL GORDON

Multnomah County Oregon
R. L. NORDLANDER, DIRECTOR, DEPARTMENT OF PUBLIC WORKS
MAIN OFFICE (503) 233-5861 ■ 2115 S. E. MORRISON STREET ■ PORTLAND, OREGON 97214

October 21, 1970

Multnomah County
Dept. of Public Works
2115 SE Morrison Street
Portland, Oregon 97214

ATTN: Robert L. Nordlander

Gentlemen:

We will be hauling rock over Rock Creek Road for the next few days and any damage to the road will be paid for by our company.

An inspection of the road was made October 21, 1970, by District Foreman Ralph Pauly. He will make an inspection of the road when the hauling is completed. It will be left to Mr. Pauly's discretion as to any repairs necessary.

Very truly yours,
Dean C. Headrick
For G. Johansen

R. A. Heintz Co.
2035 NE Columbia Blvd.
Portland, Oregon

RECEIVED
OCT 22 1970
PAUL R. BARNHART
Resident Engineer

Agreed by Multnomah County Frank L. Beyer
Frank L. Beyer, Permit Supervisor

FORM E-30 (12-67)

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
October 19, 1970

SUBJECT: Rock Creek Road
Surface Damage
Highlands Interchange-Vista
Ridge Tunnel Project
Sunset Highway

To:

Mr. A. E. Johnson
Assistant State Highway Engineer
BUILDING

In accordance with our discussion last week, herewith our file concerning Multnomah County's request for $1,500 maintenance repair to their Rock Creek Road. This is alleged excessive maintenance from Kiewit's hauling operations from our Krueger Quarry of materials for use on the subject project.

We believe this request is concerned with only the Rock Creek Road portion of the haul route which would be about 1/2 mile in length (it is another 4.7 miles out to the Sunset Highway on the Cornelius Pass Road which would be mostly over in Washington County). The contractor hauled about 41,000 cubic yards last summer from this source for use in constructing the OMSI Zoo Buttress.

As of today, Mr. Nord lander had not replied to Mr. Versteeg's September 25 letter which is included in our attachedfile.

As this could be a precedent setting matter, we submit it for further consideration.

F. D. Morgan
Construction Engineer

By John A. Bond

John A. Bond
Construction Administration Engineer

NOTED
A. E. JOHNSON

10/20/70
Copy to Versteeg
per John Bond
fw

John Bond

JAB:fw

Attach.

We will try
the "Maint force"
approach

RECEIVED
OCT 19 1970
OFFICE OF
STATE HIGHWAY ENGINEER

OREGON STATE
HIGHWAY DEPARTMENT

September 25, 1970

Mr. Robert L. Nordlander
Director of Public Works
Multnomah County
2115 S.E. Morrison Street
Portland, Oregon 97214

Dear Mr. Nordlander:

Rock Creek Road

Our contractor did use the State Quarry on Rock Creek Road to secure materials for the Canyon Road project. These trucks were hauling legal loads to the best of our knowledge.

Has Multnomah County in the past paid damages to other counties, cities or the state for damage to their roadway systems? Have any agencies paid damages to Multnomah County for legal use of their facilities?

I will submit your request of $1500 to restore Rock Creek Road to our Construction Division for their consideration. If you have any additional or related information you would care to submit, please advise.

Yours very truly,

R. L. Schroeder
Metropolitan Engineer

by

ORIGINAL SIGNED BY
J. H. VERSTEEG

J. H. Versteeg
Assistant Metropolitan Engineer

JHV:lh

bcc: John Bond
B. P. Huntley

FORM 2-30 (REV. 10-69)

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE
Portland, Oregon
September 25, 1970

SUBJECT: Rock Creek Road
Surface Damage
Highlands Interchange-Vista Ridge Tunnel Project
Sunset Highway

To: Mr. F. D. Morgan
Construction Engineer
Salem

Attention: Mr. John Bond

Transmitted is a request from Multnomah County for $1500. Mr. Nordlander states that this expense was incurred in repairing Rock Creek Road. They allege that our contractor damaged the road while hauling materials from Krueger Quarry to the Canyon Road project.

The requested amount is reasonable for the probable damage to the roadway by the contractor's hauling. To the best of our knowledge these were legal loads, but a large number of trips were made. There is no objection to the paying of the actual repairs as such.

The main question is should we be obligated in any fashion for legal loads over a road under another agency's jurisdiction. Please advise as to what action we should take in this matter.

R. L. Schroeder
Metropolitan Engineer

by

J H Versteeg

J. H. Versteeg
Assistant Metropolitan Engineer

JHV:lh
Enc
cc: E. L. Scrivner
B. P. Huntley

Routing
Morgan
Decker
Bond
Walker
Boehme
Johnson
Pease
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

RECEIVED
SEP 28 1970
CONSTRUCTION
DIVISION

COUNTY COMMISSIONERS
M. JAMES GLEASON, Chairman
L. W. AYLSWORTH
DAVID ECCLES
DONALD E. CLARK
MEL GORDON

Multnomah County Oregon

R. L. NORDLANDER, DIRECTOR, DEPARTMENT OF PUBLIC WORKS
MAIN OFFICE (503) 233-5861 ■ 2115 S. E. MORRISON STREET ■ PORTLAND, OREGON 97214

September 18, 1970

Mr. James H. Versteeg
Assistant Metropolitan Engineer
Oregon State Highway Department
5821 N. E. Glisan Street
Portland, Oregon 97213

RE: Damage to Rock Creek Road.

Dear Mr. Versteeg:

Reopening of the State Quarry located on Rock Creek Road has again created a maintenance problem on this minor facility. The loaded trucks leaving the quarry area have broken down the pavement considerably, and we feel that additional base course rock and surfacing will be necessary to restore this facility. Rock Creek Road is a minor facility and not capable of the repeated heavy use which it has experienced during the quarry operation.

In prior years, Multnomah County has paid for the repair of this roadway at the completion of the rock hauling contract. The estimated cost of restoring this roadway to its former condition is $1500. Since the quarry operation and subsequent rock haul constitutes an unreasonable use of this minor facility, we feel that the Oregon State Highway Department should pay for the restoration of this facility.

We would appreciate your most prompt consideration of this request for relief from a maintenance bill which we feel is rightfully that of the Oregon State Highway Department.

Very truly yours,

Robert Nordlander

ROBERT L. NORDLANDER
Director of Public Works

RLN:im

METROPOLITAN ENGINEER
RECEIVED
SEP 22 1970
☐ ME ☐ AME ☐ AMC ☐ MOE ☐ MDE ☐ MIE

SEP 8 1970
FORM E-30 (REV. 10-60)

26-1181
7186

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon
August 17, 1970

SUBJECT: Zoo Area
Sunset Highway

To: Mr. A. E. Johnson
Assistant State Highway Engineer
Salem

Attached is a narrative history prepared by Mr. A. V. Benedict, Assistant Metropolitan Engineer, for the subject area. In view of the difficulties that we have had, both with the City of Portland and OMSI, concerning the slides in this area, I felt it would be well to document our experiences. Inasmuch as Mr. Benedict has been personally involved with this problem over the years, it was felt that his intimate knowledge should be documented before he left the Highway Division.

Would you please examine the attached history and add any comments that you may feel are necessary. It appears to be well put together and covers the time interval in which we have had the problems with the City and OMSI.

R. L. Schroeder
R. L. Schroeder
Metropolitan Engineer

RLS:lh
Enc

copy to Bond
9-8-70

NOTED
TOM EDWARDS

NOTED
F. B. KLABOE

RECEIVED
AUG 18 1970
OFFICE OF
STATE HIGHWAY ENGINEER

History of Slides in the Zoo Area

Location studies for widening the Sunset Highway (Canyon Road) from four to six lanes were begun in 1949 by H. C. Broadwell. There was not much activity on this survey until 1955 when the City of Portland started pushing their Zoo plans and wanted an access built. The interchange design and access to the Zoo were from a plan supplied by Lawrence, Wallman and Taylor, Zoo architects, with minor modifications. A contract for highway construction was awarded August 30, 1957. Grading on the City's Zoo complex started in July.

The former highway had numerous low, gravity-type stone walls which had been built by WPA forces during depression years. Parts of original walls are still standing on the south side of the highway near the overcrossing structure. An inspection report by W. C. Hill dated 1-16-57 noted rock walls pushed out at several points. A report by Ed Johnsen dated March 1957 notes that the soil is unstable on slopes steeper than 3:1.

John Burton was assigned as Resident Construction Engineer for the State in July 1957. Jonathan Rose, his assistant, is still with the Highway Department and has an intimate knowledge of the slide history. Burton soon realized the slide potential of the area. In a later memorandum he notes that when the job was first assigned he found some of the locating engineer's references and bench marks out of line. Discrepancies of around 1½ feet were noted, both horizontally and vertically. This was mostly in the area southwest and westerly of the OMSI site. This slide extended westerly to the Racquet Clubhouse and eventually involved two expensive residences on Highland Road which the State bought and later resold. Except immediately southwest of the present OMSI building, drainage has been effective in stopping this part of the slide.

First cracking directly below the Zoo development was noticed on November 1, 1957, with the cuts about half out. The Zoo director's house was moved back from the top of slope in December, and in the spring the slopes were laid back from their original 1½:1 to a 2:1 with 2 - 13 foot benches, making an effective 2½:1 slope. Mr. Burton's memorandum states that when this cracking was first noticed, a Mr. D. E. Loughren, a private geologist, went over the area. He quotes Mr. Loughren as saying that he had made a prolonged study of this area and that movement had taken place over a long period of time.

An irregular cleavage line, or scarp, developed around the head of the slide in August, 1958. This extended in a rough semicircle from the southeast corner of the OMSI building, through the main gate and Zoo entrance area and past the giraffe barn. Highway slopes were affected from Station 97 to Station 104, later extending to about Station 106. During early stages of the Zoo construction, fluid mud ran over long-established highway cut slopes between Stations 93 and 95.

The highway construction contract was completed 12-23-59; the structure contract, 3-31-60; and a landscape contract, 11-16-61. A proposed contract in 1959 for a rock buttress at the toe of the slide was withdrawn because of pending litigation with the City over responsibility. In 1962 this project was deleted from the program. No further work was done on the highway in this area until the present widening project was started in 1968.

The firm of Dames and Moore made the preliminary soils and foundation exploration for the City in 1955. In 1958 they were again employed to recommend remedial measures for the City's slide problem, and in 1959 a 600-foot drainage gallery was constructed by the City, uphill from the visible fracture or slide scarp. This consisted of 36-inch holes on 8-foot centers, bored to rock and connected at the bottom with a continuous line of perforated drain pipe. The pipe is led to two manholes and the water pumped into the storm sewer system. The bored holes were backfilled with sand.

In 1963, the southeast corner of the OMSI building, which was being undermined by slide movement, was underpinned. Underpinning consisted of two concrete piles cast in place in 27-inch to 36-inch holes bored approximately 60 feet to rock. A reinforced concrete beam between piling carries the weight of the building.

The City's suit against the State was settled in 1962 with the State paying the City $62,500 as a release from any past, present or future liability, on the basis of geologists' reports that instability had been noted in the area since before the turn of the century and that present slippage was probably not caused by any single contributing factor but by a combination of natural and man-made occurrences.

The OMSI management made a claim for the cost of underpinning their building. While it was felt that the City's release absolved the Highway Department of any responsibility, the State paid $3263 for a complete release.

A contract was awarded on 10-14-68 to widen the four-lane pavement to six lanes from the Highlands Interchange to the Vista Ridge tunnels. Widening is being accomplished by filling the canyon to a maximum depth of 26 feet to gain sufficient width for the new facility. The fill would overlay the 1958-59 construction to a point 215 feet east of the overcrossing structure. To provide as much support as possible, a 30-foot width of select rock embankment, full depth of the fill, was required in the portion of the fill adjacent to the slide. This reached a maximum depth of approximately 20 feet. No cutting of any kind was contemplated on the side adjacent to the Zoo. It should be noted, in comparing stations, that there is a 114-foot overlap between this and the 1958-59 project because of the shortened distance up the canyon.

As soon as work got under way, officials of the City, the Zoo and OMSI became extremely nervous. The slide had continued to move periodically over the years, and in late January 1969, after a particularly wet winter, Mr. Harry Buckley, City Parks Superintendent, reported that the past month had been the worst yet. Several self-styled geologists turned up to predict dire results, and it was extremely hard to convince the officials that our work should not hurt the slide and that some measure of support was being added. As a result of the uproar, the City and the State entered into an agreement to have Shannon and Wilson make an independent geologic survey and recommend a procedure for stabilizing the slide. This was later extended to cover a special study on the OMSI building. Their report, dated 8-4-69, recommended a massive rock buttress at the toe of the main Zoo slide. A Highway Department design engineer worked up a project during the winter from data supplied by the consultant firm and physical information available in project files. The design provided for excavating a trench to rock along the toe of the slide, varying in bottom width from 28 feet on the east end to 50 feet on the west end. Front and back slopes of the excavation were to be 1:1. This was to be backfilled with screened quarry rock to a depth of over 30 feet and earth slopes above this supported by a berm of selected quarry-run rock. The exposed face of the rock was to be finished to a 2:1 slope. A 2-layer filter blanket was provided up the back slope with a single-layer filter on the bottom. Two lines of 8-inch perforated pipe were provided for drainage. The planned length of the buttress was 600 feet.

After considerable discussion with the City, the State decided to go it alone on the buttress construction. A negotiated contract was entered into with the contractor on the grading project. This was documented as Price Agreement No. 11, dated 4-9-70. A screening plant was set up in the Krueger quarry near Cornelius Pass and temporary lighting poles moved back to clear the buttress construction. Actual excavation for the buttress began on May 15. From a rather disorganized mess at the start, the buttress construction settled down to an efficient operation. As finally organized, a dragline with 2½ cu. yd. bucket took off the top part of the excavation to a little above roadway level. A large (900) Hopto hydraulic backhoe then excavated the bench down to rock. The backhoe was able to dig to firm rock, and ripping the bottom was not required. Much of the excavation ran up to 4 feet, sometimes 6 feet below the planned grade.

For most of the excavation, a large fleet of trucks hauled the excavated material to a dump site on Barnes Road near Cedar Mill and brought back rock from the quarry. Later, excess material was wasted by widening over the abandoned portion of the highway between Stations 60 and 75. Only a small amount of this material was suitable for use in highway fills.

Work started at the east end of the proposed buttress. The first increment of excavation, approximately 150 feet along the top of slope and 50 feet along the bottom, exposed the failure zone and started the slide moving. The slip zone at this point was a thin layer of clay which pitched up rather sharply in the width of the excavation. It was much higher on the slope than the consultants had expected. Excavation progressed in approximate 25-foot increments, preserving the 150-foot length of opening at the top of buttress rock. Drainage, filter material and rock backfill followed in each 25-foot increment as soon as excavation had been completed.

Each increment of excavation produced movement in the slide but of varying amounts. Some water was encountered at the beginning of the excavation and some below the Zoo commissary building. At the west end of the planned excavation, considerable water was encountered and a pronounced slippage. On the recommendation of Shannon and Wilson, the buttress was extended westerly an additional 125 feet. At the point the buttress excavation ended, the seam was dry, but there was some movement of the slide toward the end of the buttress, practically parallel to its axis. Buttress work was completed 8-6-70.

Direction of movement of the slide appeared to be about 90° to the axis of the buttress at the east end, perhaps 60° at the midpoint and about parallel at the west end. With the exposed slip plane at Station 105 for correlation, the State geology crews drilled two vertical holes along the "B" line below the OMSI building to determine the depth to the slip plane and the probable effect of this roadway which partly severs the slide mass. Slopemeter tubing was installed in the holes, and the depth and amount of future movement will be monitored.

Prior to start of any work on the rock buttress, the State established a series of reference points along the main scarp. No movement has been detected to the middle of August 1970. The State will continue to monitor this line.

The drain lines under the rock buttress empty into a manhole opposite Station 97+50. To date the drain pipe has discharged no water into the manhole. The consultant's report indicated that the underlying rock was porous enough to drain away considerable water.

During the progress of the buttress construction, a representative of Shannon and Wilson made almost daily inspections. They were frequently consulted, both in the field and at their office, as to the adequacy of the work, and their recommendations were promptly carried out. Between Stations 97+67 and 101 the buttress was both widened and raised in height to offset the effect of the failure zone being higher on the slope than anticipated. When conditions at the planned west end of the buttress were found to be worse than anticipated, the buttress was extended an additional 125 feet on their recommendation. The consultants have expressed themselves as satisfied that the performance of the as constructed buttress will be as described in their reports.

Shannon and Wilson, in their recommendations for remedial work, state that entrance of large quantities of water into the slide mass would be very detrimental to stability and strongly urge that a comprehensive survey be made of the sewer network "in the slide mass itself and where it crosses over the major slide scarp" and that defects be corrected by the next winter season after the buttress has been constructed. They recommend TV camera inspection. We are now informed that the City is arranging for the TV camera inspection and that repairs will be made where indicated. A follow-up inspection is to be made in about a year.

Plans are now being drawn to cover the buttress with topsoil and plant ivy. Because of the open character of the rock composing the buttress, it will be necessary to first key or "choke" the surface with crushed rock to prevent the topsoil from washing down into the rock. One foot of topsoil is planned.

RECEIVED
AUG 17 1970

7186

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
1632 S.W. MORRISON STREET • PORTLAND, OREGON 97205
TELEPHONE (503) 223-6147

INVOICE NUMBER
315

TO
Oregon State Highway Department
~~City of Portland~~
State Highway Building
Salem, Oregon 97310

Attention: Mr. F.B. Klaboe

INVOICE DATE	CONTRACT OR PURCHASE ORDER	AUTHORIZED FEE	JOB NUMBER
8/12/70			0-406

PROFESSIONAL SERVICES

ENGINEERING SERVICES	40 hours	$371.57	x 2.5	$928.93
REIMBURSABLE EXPENSES				12.74
TOTALS				$941.67

RECEIVED
AUG 17 1970
OFFICE OF
STATE HIGHWAY ENGINEER

THIS PERIOD: FROM 6/28/70 TO 8/1/70

☐ PROGRESS INVOICE ☒ FINAL INVOICE for services authorized to date

JOB REFERENCE:

Buttress Construction: Portland Zoological Gardens, Portland, Oregon

orig. to Skoog 8-17-70

NOTED
F. B. KLABOE

TERMS: NET 30 DAYS. PLEASE PAY FROM THIS INVOICE. STATEMENTS SENT ONLY UPON REQUEST.

RECEIVED
AUG 17 1970

26-1121
7186

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
1632 S.W. MORRISON STREET • PORTLAND, OREGON 97205
TELEPHONE (503) 223-6147

INVOICE NUMBER
315

TO
Oregon State Highway Department
~~City of Portland~~
State Highway Building
Salem, Oregon 97310

Attention: Mr. F.B. Klaboe

INVOICE DATE	CONTRACT OR PURCHASE ORDER	AUTHORIZED FEE	JOB NUMBER
8/12/70			0-406

PROFESSIONAL SERVICES

ENGINEERING SERVICES	40 hours	$371.57	x 2.5	$928.93
REIMBURSABLE EXPENSES				12.74
TOTALS				$941.67

RECEIVED
AUG 17 1970
OFFICE OF
STATE HIGHWAY ENGINEER

THIS PERIOD: FROM 6/28/70 TO 8/1/70

☐ PROGRESS INVOICE ☒ FINAL INVOICE for services authorized to date

JOB REFERENCE:

Buttress Construction: Portland Zoological Gardens, Portland, Oregon

orig to Skoog 8-17-70

NOTED
F. B. KLABOE

TERMS: NET 30 DAYS. PLEASE PAY FROM THIS INVOICE. STATEMENTS SENT ONLY UPON REQUEST.

Our invoice #315
Dated 8/12/70

BREAKDOWN OF LABOR:

L.R. Squier	16 hours	@ 8.942 =	143.07
C. MacKenzie	½ "	@ 2.654 =	1.33
G. Gehrke	2½ "	@ 2.769 =	6.92
R. J. Deacon	11½ "	@ 7.702 =	88.56
W.L.Wright	8½ "	@ 11.538=	98.08
P.B. Kelly	1 "	@ 6.087 =	6.09
	40 hours		$344.05
		+8%	27.52
			$371.57

BREAKDOWN OF REIMBURSABLE EXPENSE:

Film	10.70
Repr9duction	1.40
	12.10

RECEIVED
AUG 20 1970
FOR FILE

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[illegible]

8-11-70

[illegible]

Zoo Slide Buttress Landscaping

Revised Estimate (for Contracting)

Surface area 80,000 sq. ft.

Crushed Key Material	4000 Tons @ 3.00	$12,000
Topsoil	4000 Cu. Yds.@ 4.00	16,000
Furnish and Plant Ivy	22,000 ea. @ 0.50	11,000
Fertilizer 20-16-8-25	26 Cwt. @15.00	390
Bark Mulch	80 Units @ 30.00	2,400
	Subtotal	41,790
	+20% (Approx.)	8,210
	Total Estimate	$50,000

NOTED
R. L. PORTER

FORM E-30 (REV. 10-69)

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon
August 3, 1970

SUBJECT: Zoo Slide Buttress
Highlands Intch.-Vista Tunnel
Sunset Highway
Contract 7186

To: Mr. A. E. Johnson
Assistant State Highway Engineer
Salem

The following estimate has been prepared in response to your letter of July 28, 1970. The estimate for planting English Ivy, bark mulch and fertilizer was obtained by phone from Mr. Olson's office. Mr. Olson recommends one foot of topsoil.

Estimates for crushed rock and topsoil were made in this office. There has been no discussion of prices with the contractor.

Estimated surface area 80,000 square feet.

1½-0 Key Material	6" plus 1/3	2000 c.y. @ $7.00	$14,000
Topsoil	12" plus 1/3	4000 c.y. @ 7.00	28,000
English Ivy in Place	22,000 @ 0.50		11,000
Bark Mulch	80 units @ $30		2,400
Fertilizer	2600# @ 0.15		390
		Total	$55,790
		Allowance	9,210
		Estimate	$65,000

Total Project Authorization to date	$3,302,563.87
Est. Cost, including $65,000 for Landscaping	3,402,641.81
Overrun	3.03%

Please advise if you want a Price Agreement negotiated for this work.

R. L. Schroeder
Metropolitan Engineer

by

A. V. Benedict

A. V. Benedict
Assistant Metropolitan Engineer

AVB:lh
cc: F. D. Morgan
Roy Olson
E. L. Scrivner

RECEIVED
AUG [illegible]
OFFICE OF
STATE HIGHWAY ENGINEER

SP*52478-734

Salem, Oregon
July 28, 1970

Zoo Slide Buttress
Highlands Intch.-Vista Tunnel
Sunset Highway
Contract 7186

R. L. Schroeder
Metropolitan Engineer

PORTLAND

Reference is made to A. V. Benedict's July 22 letter concerning topsoil over the finished rock buttress and providing planting material for screening.

We have been directed by the Chairman of the Highway Commission to screen this rock buttress with appropriate landscaping, and it is believed that applying topsoil as outlined in Mr. Benedict's letter and planting heavily with ivy would accomplish the job.

Please work up an estimate for this project, determine if it is possible to finance it with the project funds, and advise.

A. E. Johnson
Assistant State Highway Engineer

AEJ:ms
cc R. L. Porter
Tom Edwards
F. B. Klaboe
F. D. Morgan
Roy Olsen

FORM E-30 (REV 10-69)

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon
July 22, 1970

SUBJECT: Zoo Slide Buttress
Highlands Intch.-Vista Tunnel
Sunset Highway
Contract 7186

To: Mr. A. E. Johnson
Assistant State Highway Engineer
Salem

Recently you requested that I check with our consultants on the Zoo slide as to their reaction to topsoiling of the finished rock buttress.

I checked with Walter Wright of Shannon and Wilson, who stated that he had no great objection to placing of topsoil over the buttress rock provided we first applied a layer of crushed material to choke the voids in the larger rock to prevent excessive infiltration of the topsoil material. It was his opinion that the cleaner portions of the 3" reject material now being produced in the quarry would be suitable as would also our standard 1½"-0 coarse crushed base rock. As to quantity, it was his opinion that it might take the equivalent of 8 inches of material to satisfactorily choke the voids.

In discussing the matter with Mr. Scrivner, our Resident Engineer, we concluded that much of the reject material from the quarry contained too much dirt and because of the long haul would prove more expensive than crushed anyway. We therefore recommend 1½"-0 crushed rock and believe that the equivalent of 6 inches would prove sufficient. It is expected that this material would not raise the present plane of the rock surface. Thickness of topsoil would then be as recommended by the landscape engineer.

R. L. Schroeder
Metropolitan Engineer
by

AVBenedict

A. V. Benedict
Assistant Metropolitan Engineer

AVB:lh
cc: F. D. Morgan
E. L. Scrivner
Roy Olson

NOTED
A. E. JOHNSON

SP*52475-734

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
1632 S.W. MORRISON STREET • PORTLAND, OREGON 97205
TELEPHONE (503) 223-6147

INVOICE NUMBER
309

TO

Oregon State Highway Department
City of Portland
State Office Building
Salem, Oregon

Attention: Mr. F. B. Klaboe
Asst State Hwy Engineer

INVOICE DATE	CONTRACT OR PURCHASE ORDER	AUTHORIZED FEE	JOB NUMBER
8/4/70			0-406

PROFESSIONAL SERVICES

ENGINEERING SERVICES	79 hours	$652.98	x 2.5	$1632.45
REIMBURSABLE EXPENSES				58.98
TOTALS				$1691.43

Breakdown of above attached:

RECEIVED
AUG 5 1970
OFFICE OF
STATE HIGHWAY ENGINEER

THIS PERIOD: FROM 6/1/70 TO 6/27/70

☒ PROGRESS INVOICE ☐ FINAL INVOICE

JOB REFERENCE:

Slope Stability Investigation, Portland Zoological Gardens,
Portland, Oregon

NOTED
F. B. KLABOE

origs to Skoog 8-7-70

TERMS: NET 30 DAYS. PLEASE PAY FROM THIS INVOICE. STATEMENTS SENT ONLY UPON REQUEST.

State Highway
City of Portland

Inv #309
8/4/70

Breakdown of Labor:

R. J. Deacon	14 hours	@ 7.702/hr =	$ 107.83
K. F. Fujitani	½ "	@ 7.442 " =	3.72
C. MacKenzie	½ "	@ 2.654 ? =	1.33
L. R. Squier	23 "	@ 8.942 " =	205.66
P. B. Kelly	33½ "	@ 6.087 '" =	203.91
W. L. Wright	7 "	@ 11.538 " =	80.78
G. Gehrke	½ "	@ 2.769 " =	1.38
	79 hours		$604.61
		+8%	48.37
			$652.98

Breakdown of Reimbursable Expense:

Film and developing	$22.34
Reproduction	13.15
L.D. telephone	23.49
	$58.98

RECEIVED
JUL 30 1970
FOR FILING

26-1181
7186

July 29, 1970

Oregon State Highway Commission

Gentlemen:

The State and the City of Portland entered into a cooperative agreement with the consulting firm of Shannon and Wilson, Inc., on March 11, 1969, for the purpose of conducting foundation investigations and engineering studies to develop recommendations for correction of the slide condition in the vicinity of the OMSI-Portland Zoo properties.

Certain provisions of the agreement stipulate that the State and the City shall share equally in the costs of the study, and that the Company be required to obtain approval from both the State and the City prior to expending any funds in excess of the authorized amount of $40,000.

It has now been determined that additional funds will be required in order to complete the work in an acceptable manner. The Company is requesting additional funds in the amount of $2,500 and offers assurance that authorization in this amount will adequately cover the fees and services necessary to complete the work.

The City has been requested to participate in the amount of $1,250 with the State's share being an equal amount.

I recommend your approval and request authorization for the expenditure of funds amounting to $1,250.

This matter will be on the agenda for the August 18 meeting.

Very truly yours,

R. L. Porter
State Highway Engineer

cc: Floyd Query
Tom Edwards
F. B. Klaboe
A. E. Johnson
Victor D. Wolfe
D. J. Barbee
F. D. Morgan
L. H. Young
V. E. Skoog
H. S. Cox
R. L. Schroeder

MCH:ljt sr

RECEIVED
JUL 28 1970
FOR FILING

26-1181
2181

July 28, 1970

The Honorable Francis J. Ivancie
Commissioner of Public Affairs
City of Portland
City Hall
Portland, Oregon 97204

Dear Commissioner Ivancie:

The State and the City of Portland entered into an agreement with the consulting firm of Shannon and Wilson, dated March 11, 1969, concerning the performance of foundation investigations and engineering studies in the vicinity of the Portland Zoological Gardens.

Certain provisions of this agreement stipulate that the State and the City shall share equally in the cost of the study, and that the Company shall obtain approval from the State and the City prior to expending funds in excess of $40,000. It has been determined that additional funds will be required in order to complete the work in an acceptable manner.

The Company is requesting additional funds in the amount of $2,500 and offers assurance that authorization of funds in this amount will adequately cover the fees and services necessary to complete its portion of the work.

We are therefore requesting the City to approve the expenditure of additional funds and to participate in the cost by forwarding its check or warrant in the amount of $1,250.

If you have any questions regarding this matter, please contact me at an early date.

Very truly yours,

R. L. Porter
State Highway Engineer

By

F. B. Klaboe
Assistant State Highway Engineer

cc: R. L. Porter
Tom Edwards
A. E. Johnson
Victor D. Wolfe
L. I. Lindas
V. E. Skoog
H. S. Cox
R. L. Schroeder

MCH:ljt srb

Portland
0-406
Hwy 47

WILLIAM L. SHANNON, P. E.
STANLEY D. WILSON, P. E.
EARL A. SIBLEY, P. E.
WALTER L. WRIGHT, P. E.
RUDY J. DIETRICH, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE · PORTLAND · BURLINGAME

1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 • (503) 223-6147

July 15, 1970

NOTED
H. S. COX

Mainor S.

RECEIVED
JUL 24 1970
ENGINEER
COUNTY & CITY DIVISION

Oregon State Highway Department
City of Portland
State Highway Building
Salem, Oregon 97310

Attention: Mr. F. B. Klaboe
Asst. State Highway Engineer

Re: OMSI-ZOO Landslide
Portland, Oregon

Gentlemen:

Since the completion of our foundation investigation and the submittal of our report entitled "Final Report, OMSI-ZOO Landslide Investigation, Portland, Oregon " dated August 4, 1969, additional work has been accomplished at your request which is outside the scope of our original Agreement (March 11, 1969). All of the additional work has been in connection with the preparation, construction contract documents and the construction of the buttress. The additional work has consisted of conferences with State Highway Department personnel, various site visits to observe buttress construction and engineering studies associated with changed site and as-built conditions. The additional work as outlined was accomplished at the request of Department personnel.

Until recently costs for the additional work have been charged to the funds remaining in our original Agreement since completion of the report. However, it now appears that a surplus no longer exists and that additional authorization of funds is required as provided for in our original Agreement.

Our additional costs, over and above the amount of $40,000 set forth in the Agreement, appears at the present time to be approximately $2500.00.

Hence, at this time, we request additional authorization of $2500.00 in order to cover actual and expected additional fees for services, outside the scope of our original Agreement. We fully

NOTED
MAINOR C. HOLMES

NOTED
N HARWELL

expect that this amount will adequately cover our fees and services through the end of the construction of the buttress.

Very truly yours,

SHANNON & WILSON, INC.

by Walter L. Wright
WALTER L. WRIGHT

WLW:fw

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JUL 1[illegible]
OFFICE OF
STATE HIGHWAY ENGINEER

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JUL 20 1970

FOR FILING

26-1121
7186

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
July 17, 1970

To: MEMO TO THE FILE

SUBJECT: Zoo Slide Buttress
Highlands Inch. - Vista
Tunnel Section
Sunset Highway
Contract 7186

This morning Dan Gano and Warren Passo met me at the site of the Zoo buttress to observe the exposed slip plane at the westerly end of excavation and explore its possible course under the westbound ramp into the Zoo, and below the OMSI building. Mr. Johnson has asked for a cross-section across this ramp and the approximate crossing of this future section was marked.

With the exposed failure zone for correlation, it was the opinion of those present that at least one, and preferably two, drill holes along this ramp would yield valuable information for any future studies around the OMSI building. One hole will be located on the cross-section noted above, and one about 200 feet northerly, below the OMSI building. Mr. Gano proposes to install slope indicator tubing in these holes.

This was discussed with Mr. Johnson this afternoon and his approval obtained, on the basis of a $400 estimate of cost. The drilling will start about July 27.

Mr. Buckley, City Parks Director, was contacted by phone and gave his consent to drilling on City of Portland property.

NOTED
TOM EDWARDS

A. V. Benedict

A. V. Benedict
Assistant Metropolitan Engineer

AVB:alh
cc A. E. Johnson
F. D. Morgan
E. L. Scrivner
Dan Gano

NOTED
A. E. JOHNSON

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JUL 20 1970
OFFICE OF
STATE HIGHWAY ENGINEER

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JUL 20 1970
FOR FILING

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7186

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
July 15, 1970

To: Mr. F. D. Morgan
Construction Engineer
State Highway Building
Salem

SUBJECT: Zoo Slide Buttress
Highlands Inch.-Vista Tunnel Sec.
Sunset Highway
Contract 7186

Estimated quantities and cost required to extend the Zoo buttress construction 130 feet westerly are as follows:

Item		Amount
General Excavation	12,781 c.y. @ 2.94	$ 37,576.
14"-0 Quarry Rock	7,991 c.y. @ 6.55	52,341
Rock Embankment	2,715 c.y. @ 5.60	15,204
1½"-0 Material in Filter Bed	995 c.y. @ 12.25	12,189
Sand in Filter Blanket	312 c.y. @ 9.21	2,874
Drain Sand	87 c.y. @ 11.00	957
8" Perf. Drain Pipe	390 LinFt @ 3.00	1,170
TOTAL		$122,311

The above quantities are based on actual cross sections of existing ground, but will be affected some by remeasure. It is anticipated that some substitution of 1½"-0 coarse crushed base for 1½"-0 Material in Filter will be made as covered by separate letter to Shannon and Wilson. I have their verbal consent to the substitution.

NOTED
F.B. KLABOE

R. L. Schroeder
Metropolitan Engineer

By A V Benedict

NOTED
A. E. JOHNSON

A. V. Benedict
Assistant Metropolitan Engineer

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OFFICE OF
[illegible] HIGHWAY ENGINEER

AVB:slh

cc A. E. Johnson
E. L. Scrivner

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FOR FILING

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OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
July 9, 1970

SUBJECT: Highlands Interchange-Vista Ridge
Tunnel Project
Zoo Slide Buttress

To: R. L. Porter
State Highway Engineer

OFFICE

On the evening of July 8, A. V. Benedict, Metropolitan Division, advised me that at the westerly end of the buttress considerable water was encountered flowing out of the slip plane. During excavation appreciable movement of the slide occurred. He stated that Shannon and Wilson, our consultants, through their representatives became concerned and after a rapid restudy advised us to extend the buttress approximately 130 to 150 feet westerly. It was estimated that the cost of this extension will be approximately $150,000.

I conferred with Mr. Ed Johnsen this morning, who stated that he had conferred with representatives of Shannon and Wilson and they definitely recommended extending the buttress. It was his opinion that possibly we could "get by" with a slightly reduced section,which would take a considerable number of days for Shannon and Wilson to determine, if we felt this was necessary.

I reported the above circumstances to Mr. Edwards this morning and advised him that with the additional work the estimated cost of the total project would be under a five percent overrun and that it was my recommendation we extend the buttress. Mr. Edwards concurred.

I advised the Metropolitan Division this morning to proceed with the extension of the work and to provide this office with written documentation from Shannon and Wilson setting forth their positive recommendation.

Further investigation this morning disclosed that at the present time, without this additional buttress work, the Metropolitan Division estimated a two percent underrun of approximately $66,000 and that the additional work will result in an approximate three percent overrun.

AE Johnson

A. E. Johnson
Assistant State Highway Engineer

AEJ:ms

cc Tom Edwards
F. B. Klaboe
V. E. Skoog
R. L. Schroeder
F. D. Morgan

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JUL 17 1970
FOR FILING

26-1181

7/16

William L. Shannon, P.E.
Walter L. Wright P.E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE · PORTLAND · BURLINGAME

1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 · (503) 223-6147

0-406

MEMO TO FILE: Job 0-406

Field Conference notes with Messrs Benedict, Versteeg, Johnson, Oregon State Highway Department

DATE: July 9, 1970

NOTED
F. B. KLABOE

Recent visual observations of the buttress construction in the vicinity of Sta. 104+00 at the OMSI-ZOO slide area indicates that the primary failure plane is more active in the area of Sta. 104+00 than was originally assumed at the time of the design studies. In addition, a considerable quantity of water is observed to be present in this area. It appears that more water is present at this location (Sta. 104+00) than at any other point in the excavation for the buttress. In addition, tension cracks are showing behind the excavation for the buttress and to the west of the buttress. Between noon and approximately 3:00 P.M. on July 8, 1970, the displacement of the primary failure plane was observed to be approaching approximately 2 tenths of a foot which is about the same movement as observed in other locations of the buttress upon initial opening of a section.

Based upon the observed conditions existing in the field it was our verbal recommendation to Mr. Al Benedict of the Oregon State Highway Dept. that consideration be given to the extension of the buttress an additional 100 to 130 feet to the west. Accordingly, a meeting was held at the job site on the afternoon of July 8, 1970, to observe the conditions and discuss the extension of the buttress. Those present consisted of

Al Benedict (OSHD)
Jim Versteeg (OSHD)
Ed Johnson (OSHD)
Bob Deacon (S&W)
Walt Wright (S&W)

NOTED
A. E. JOHNSON

At this time the subsurface conditions exposed by the nearly completed buttress excavation were observed by all parties present and we (Shannon & Wilson) recommended the extension of the buttress to the west approximately 100 to 130 feet using the present design section at Sta. 104+00 with a reduced toe width sufficient to clear a relocated sewer line (approximate 5 feet).

The possibility of reducing the buttress section was discussed but we (Shannon & Wilson) indicated that this would require some time to make an analysis of the section and determine if a reduced section could be used without a undesirable compromise with the desired factor of safety of 1.25.

WLW:gg

by Walt L. Wright
Walter L. Wright

cc: Mr. J. Versteeg (for information)

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JUL 14 1970
OFFICE OF
STATE HIGHWAY ENGINEER

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JUN 24 1970
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7186

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon
June 23, 1970

SUBJECT: Highlands Interch.-Vista Tunnel Sec.
Zoo Slide Correction
Contract No. 7186

To: Mr. F. D. Morgan
Construction Engineer
Salem

Herewith prints of sections received yesterday from Shannon and Wilson together with a copy of their letter and a copy of my reply. Red lines and marks on the sections were added in this office and indicate the sections as staked. Mr. Decker's verbal approval of the additional work was based on my representation of the work as indicated by the red notes.

Today will complete the buttress backfill to the full indicated cross-section to approx. Sta. 101, except for two haul ramps up the face of the rock fill.

The dragline is excavating ahead, and the backhoe will probably start in the morning to excavate a 25-foot section in the bottom in preparation for another 25-foot section of buttress backfill. Our biggest problem is getting the contractor to keep a sufficient surge pile of rock to backfill his excavation in case of a breakdown of the grizzly. The rate of haul exceeds the rate of production. There will be no buttress rock hauled tomorrow, and the contractor promises to run the screening plant 12 hours to catch up.

A. E. Johnson
Metropolitan Engineer

by

A V Benedict

A. V. Benedict
Assistant Metropolitan Engineer

AVB:lh
Enc
cc: F. B. Klaboe, w/Enc.
E. L. Scrivner "
Dan Gano "

RECEIVED
JUN 2
OFFICE OF
STATE HIGHWAY ENGINEER

OREGON STATE
HIGHWAY DIVISION

METROPOLITAN SECTION

5821 N.E. GLISAN • PORTLAND, OREGON • 97213 • Phone 235-8911

June 23, 1970

Shannon and Wilson, Inc.
1632 S.W. Morrison Street
Portland, Oregon 97205

Attention: Mr. L. Rad. Squier

Gentlemen:

Highlands Interchange-Vista Tunnel Sec.
Zoo Slide Correction
Contract No. 7186

Receipt is acknowledged of your letter of June 19 with accompanying typical sections.

In the conference in your office last Wednesday, you stated that the increased section as shown for Station 99+00 should apply at Station 98+00 also, and be rounded back to the start of the buttress. This was not indicated on your sections or covered in your letter of transmittal.

We have staked the buttress for 12 feet of additional width and 5 feet of additional height at both Stations 98+00 and 99+00; 9 feet of additional width only at Station 100+00; 6 feet of additional width only at Station 101+00 and will taper the additional width to zero at the point where the design slope meets back of berm on the roadway section, approximately Station 101+65.

I trust that the above is the amount of buttress reinforcement intended.

Yours very truly,

A. E. Johnson
Metropolitan Engineer

by

AV Benedict

A. V. Benedict
Assistant Metropolitan Engineer

AVB:lh
cc: F. D. Morgan
F. B. Klaboe
E. L. Scrivner
Dan Gano

OREGON STATE
HIGHWAY DIVISION

METROPOLITAN SECTION

5821 N.E. GLISAN • PORTLAND, OREGON • 97213 • Phone 235-8911

June 23, 1970

Shannon and Wilson, Inc.
1632 S.W. Morrison Street
Portland, Oregon 97205

Attention: Mr. L. Rad. Squier

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Zoo Slide Correction
Contract No. 7186

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I trust that the above is the amount of buttress reinforcement intended.

Yours very truly,

A. E. Johnson
Metropolitan Engineer

by

AV Benedict

A. V. Benedict
Assistant Metropolitan Engineer

AVB:lh
cc: F. D. Morgan
F. B. Klaboe
E. L. Scrivner
Dan Gano

0-406

MEMO

TO: Mr. Al Benedict
From: Rad Squier
Date: June 19, 1970

Re: Buttress Design
OMSI-ZOO Landslide

Enclosed are three blackline prints of the buttress at L Sta. 99 + 00, 100 + 00 and 101 + 00 which show the changes in height and width of the buttress required to compensate for the apparently higher elevation of the main OMSI-ZOO failure plane at these stations. These changes in the buttress are necessary, in our opinion, in order to theoretically maintain the factor of safety, F.S, of the buttress within the range, 1.20 to 1.25

Very truly yours,

SHANNON & WILSON, INC.

by L.R. Squier

L. RADLEY SQUIER, P.E.

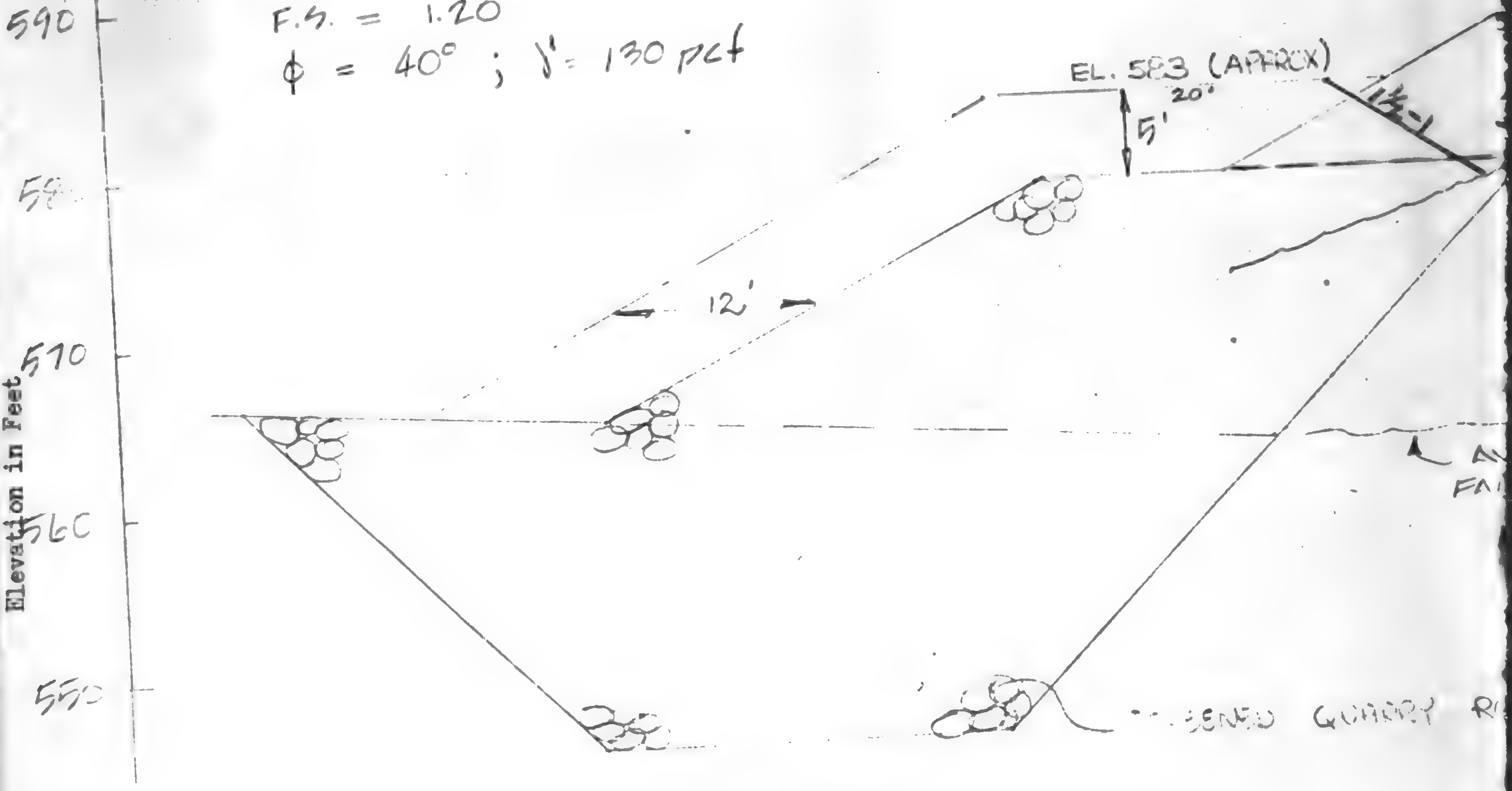
LRS/cam
encl. Buttress Design Sections
L Stations 99 + 00, 100 + 00
and 101 + 00

METROPOLITAN ENGINEER
RECEIVED
JUN 22 1970
☐ ME ☐ AME ☐ AMC ☐ MOE ☐ MCE ☐ MTE

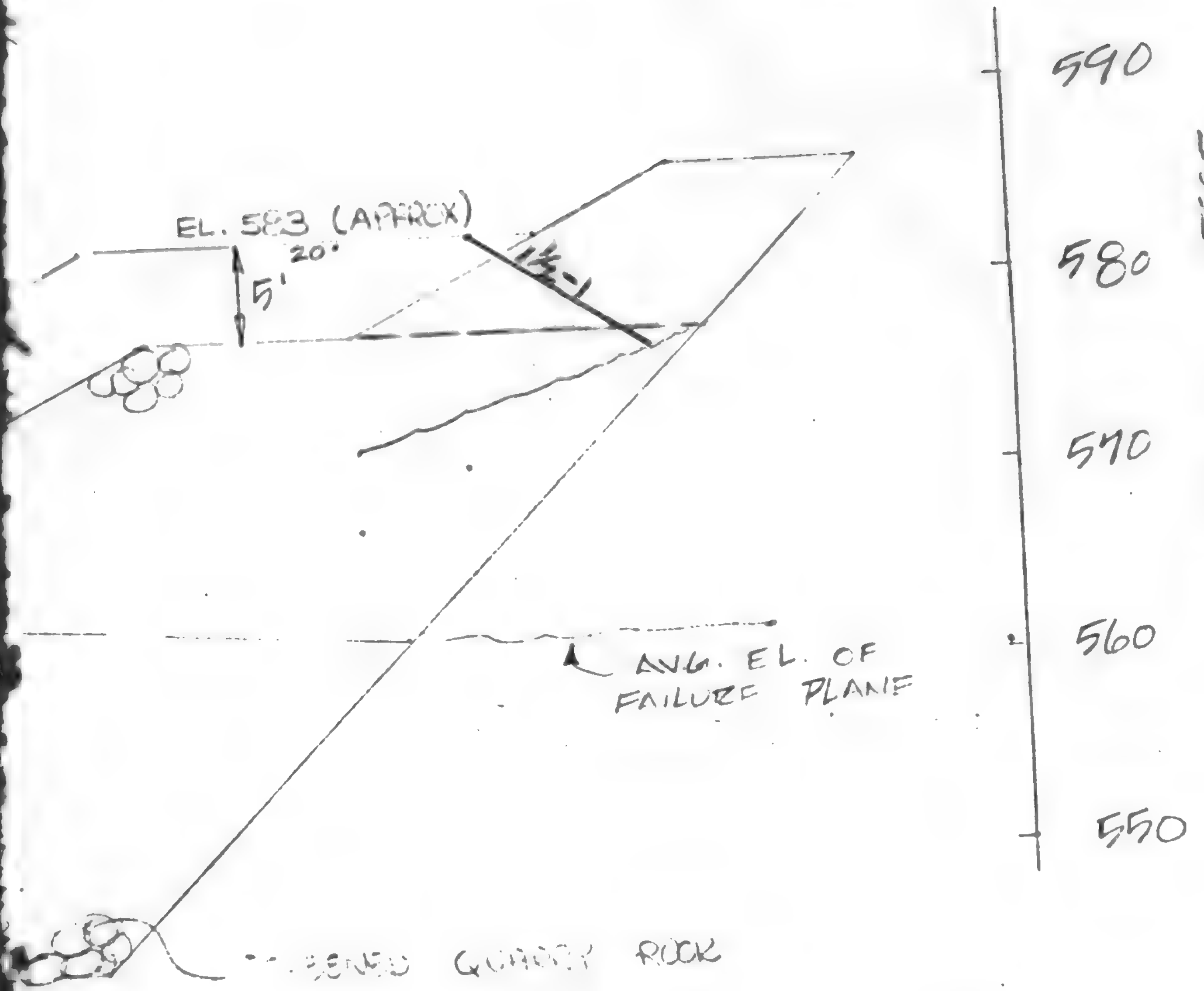
DESIGN ASSUMPTIONS

F.S. = 1.20

$\phi = 40°$; $\gamma' = 130$ pcf


590
58
570
560
550
Elevation in Feet
EL. 583 (APPROX)
20'
5'
1½-1
12'
QUARRY

STA 99+00
(BUTTRESS STA 1+37.73)
Sta 98+00 - Same section


EL. 583 (APPROX)
20'
5'
1½-1
590
580
570
560
550
ELEVATION IN FEET
AVG. EL. OF FAILURE PLANE
SCREENED QUARRY ROCK

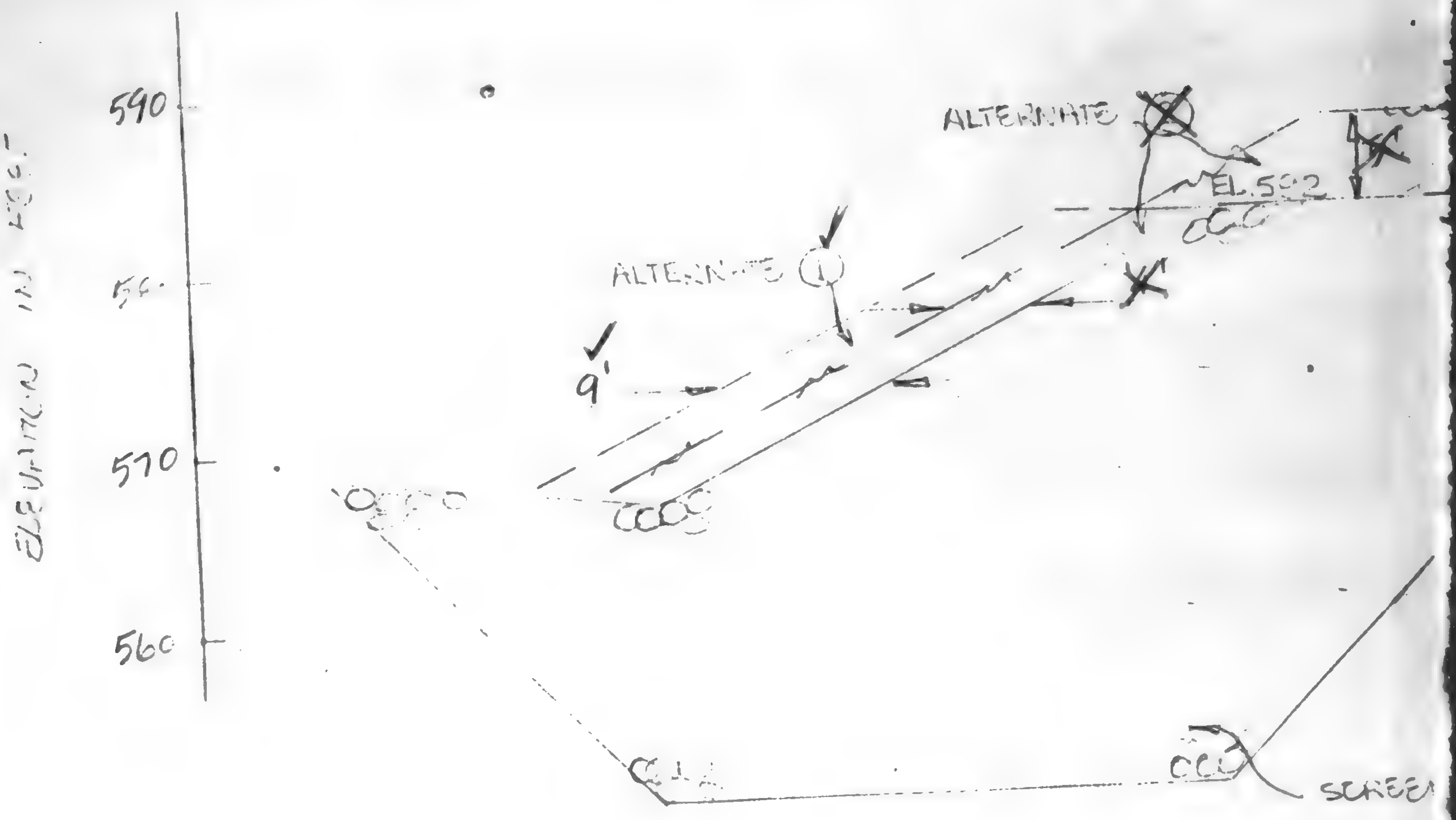
(1+37.73)
ame section

BUTTRESS DESIGN:
OMSI - ZOO LANDSLIDE

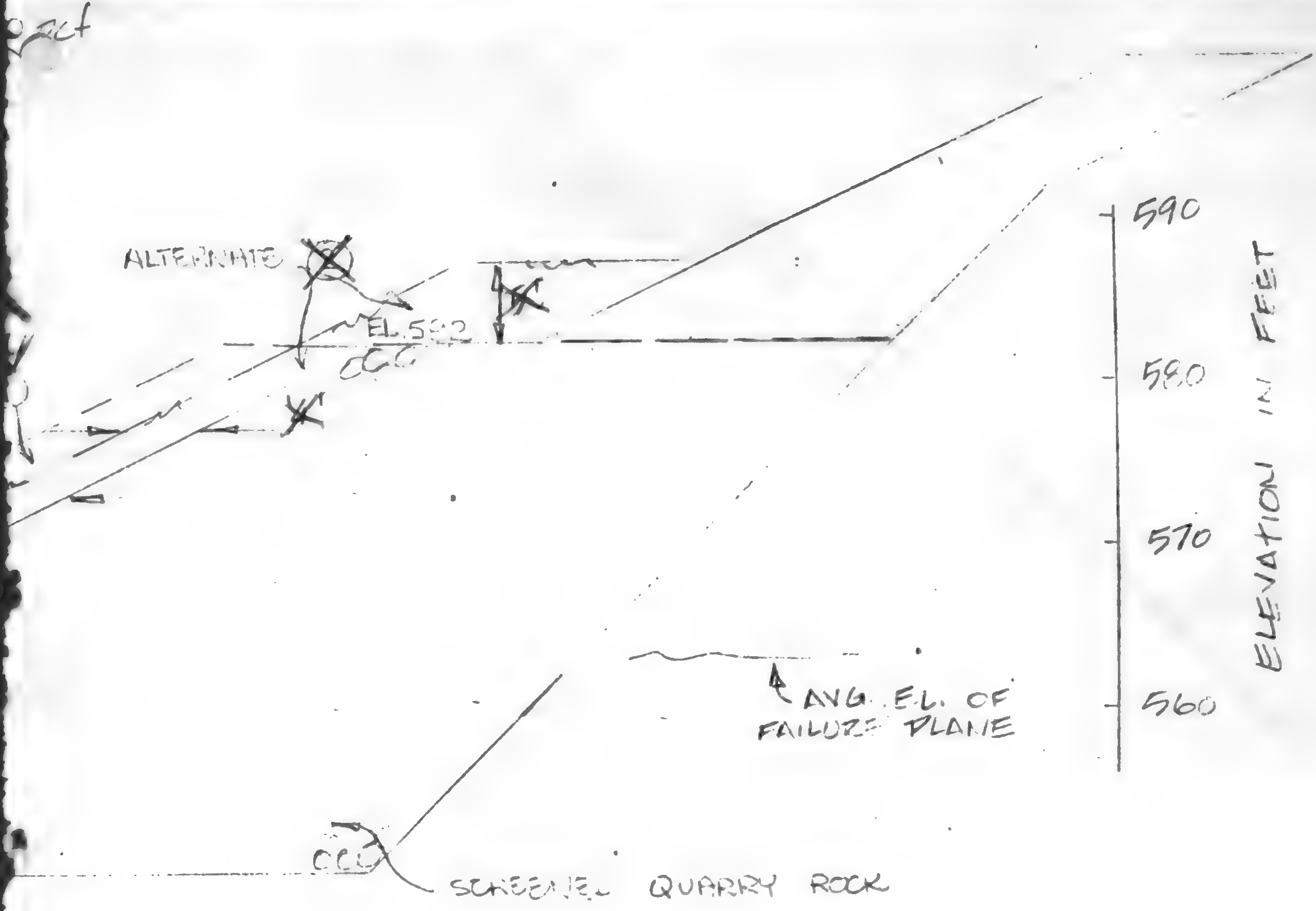
JUNE, 1970
C-406
SHANNON & WILSON, INC

Design Assumptions: $\phi = 40°$; $\gamma' = 130$ pcf

Factor of Safety = 1.20


ELEVATION IN FEET
590
580
570
560
ALTERNATE ②
ALTERNATE ①
9'
EL. 582
SCREEN

STA. 100+00
(BUTTRESS STA. 2+30)

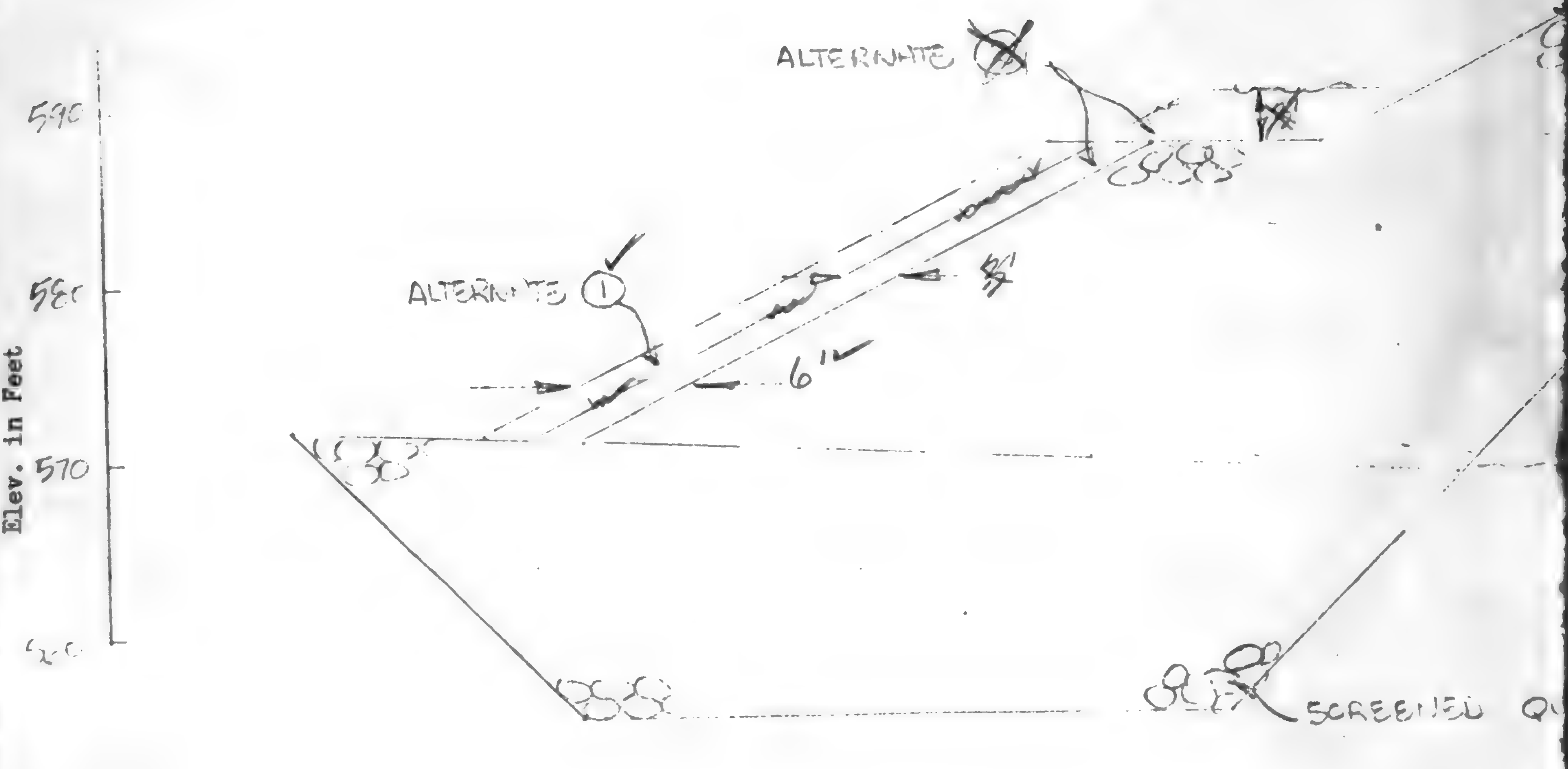

pcf
ALTERNATE
EL. 582
590
580
570
560
ELEVATION IN FEET
AVG. EL. OF FAILURE PLANE
SCREENED QUARRY ROCK

STA. 100+00
UTTRESS STA. 2+30.)

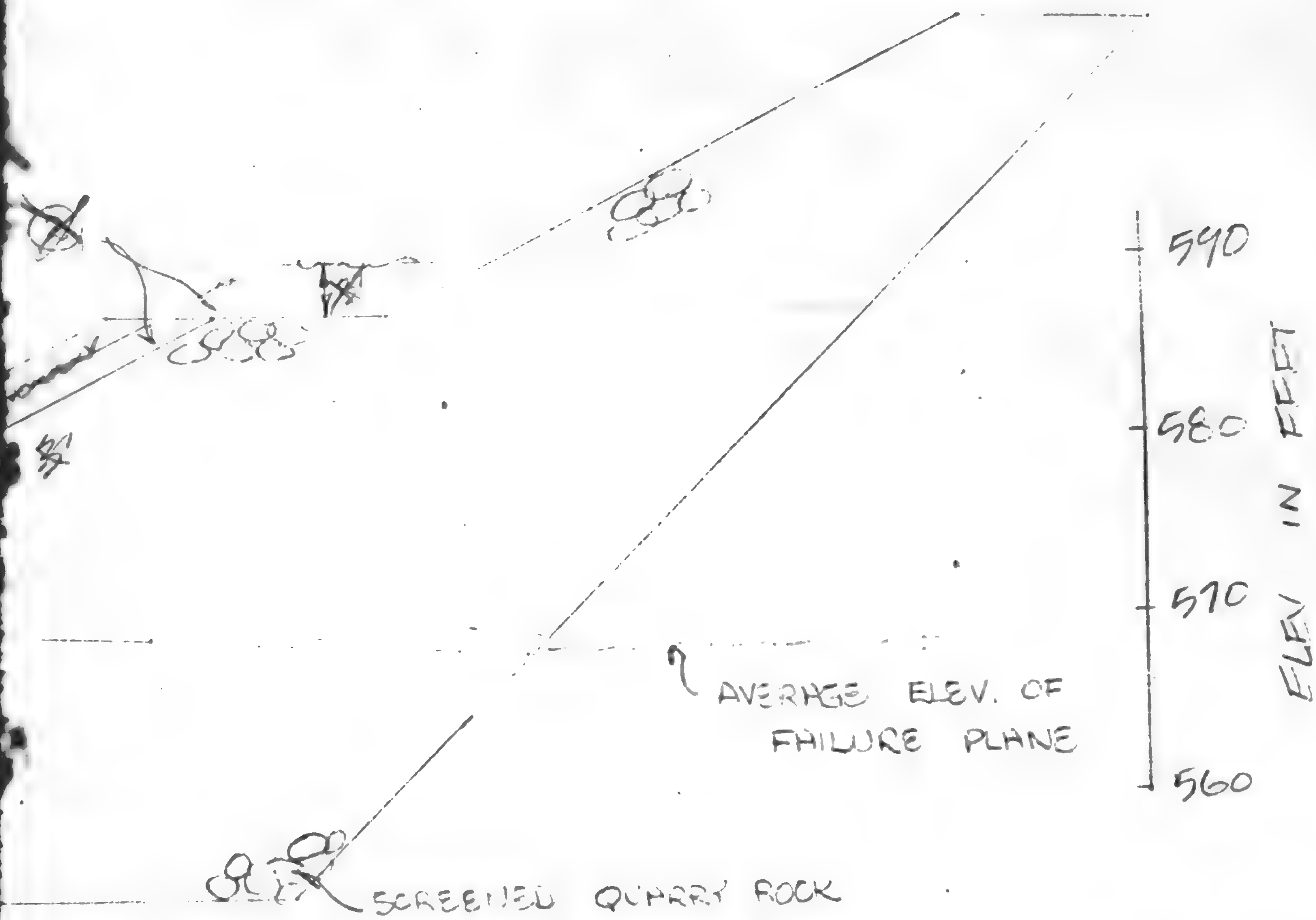
BUTTRESS DESIGN:
CMSI-200 LANDSLIDE

JUNE, 1970 O-406
SHANNON & WILSON, INC

Design Assumptions: FACTOR OF SAFETY = 1.20
$\phi = 40°$; $\gamma' = 130$ pcf


ALTERNATE ②
590
580
ALTERNATE ①
8'
6'
570
560
Elev. in Feet
SCREENED QU

STATION 101+00
(BUTTRESS STA 3+24 OF)


590
580
570
560
ELEV IN FEET
AVERAGE ELEV. OF FAILURE PLANE
SCREENED QUARRY ROCK

TION 101+00

STA 3+24 OF)

BUTTRESS DESIGN:
CMST-2 CC LANDSLI

JUNE, 1970 O-406

SHANNON & WILSON, INC.

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c

SHANNON & WILSON, INC.

SOIL MECHANICS AND FOUNDATION ENGINEERS
1632 S.W. MORRISON STREET • PORTLAND, OREGON 97205
TELEPHONE (503) 223-6147

INVOICE NUMBER
284

TO

Oregon State Highway Department
City of Portland
State Office Building
Salem, Oregon

Attention: Mr. F. B. Klaboe, Asst. State Hwy Engineer

INVOICE DATE	CONTRACT OR PURCHASE ORDER	AUTHORIZED FEE	JOB NUMBER
6/20/70			0-406

PROFESSIONAL SERVICES

ENGINEERING SERVICES	21½ hours	$147.95 x 2.5	$369.88
REIMBURSABLE EXPENSES			3.60
Breakdown on attached sheet			
TOTALS			$373.48

RECEIVED
JUN 23 1970
OFFICE OF
STATE HIGHWAY ENGINEER

NOTED
F. B. KLABOE

THIS PERIOD: FROM 5/1/70 TO 5/30/70

☒ PROGRESS INVOICE ☐ FINAL INVOICE

JOB REFERENCE:

Slope stability investigation, Portland Zoological Gardens, Portland, Oregon

orig to Skaug 6-23-70

TERMS: NET 30 DAYS. PLEASE PAY FROM THIS INVOICE. STATEMENTS SENT ONLY UPON REQUEST.

Invoice #284
June 15, 1970

Breakdown on above invoice.

Principal Engineer	L. R. Squier	9 hours	@ 8.942/hr	=	80.47
	W.L.Wright	2 "	@ 11.538/hr	=	23.08
Engineer	P. B. Kelly	1½ hrs	@ 6.087/hr	=	9.13
Laboratory Tech.	M. Mohr II	3 "	@ 2.74	=	8.22
Draftsman	C. MacKenzie	4½ "	@ 2.654	=	11.94
Clerical	G. Gehrke	1½ "	@ 2.769	=	4.15
		21½ hours			136.99
			+8%		10.96
					147.95

Reimbursable Expense:

Film	1.50
Telephone	2.10
	3.60

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JUN 22 1970

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7186

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon 97310
June 19, 1970

To: MEMO TO THE FILE

SUBJECT: Highlands Interchange-Vista Tunnel Section, Sunset Highway Multnomah County, OMSI Slide Correction

This memo is written to document our opinion of the Shannon & Wilson report entitled "Subsurface Investigation, OMSI Facility, Portland, Oregon". To be more explicit, it directs itself to the minor bank failure adjacent to the OMSI building and not to the major zoo slide.

Shannon & Wilson have developed a plan for correcting this bank failure by the construction of two retaining walls; one near the toe of the bank and one near its summit. We have estimated the cost for the construction of these facilities to be about $30,000 to $50,000.

Shannon & Wilson have also reported to us that the stabilization work now being installed by the State Highway Division, namely the construction of a buttress wall to contain the entire large zoo slide, will stabilize the area occupied by OMSI except for this minor bank failure problem. In other words, the bank failure is a separate item from the large slide.

Under the circumstances, it is our opinion that the State Highway Division has no responsibility in performing any corrective work to the small, isolated slide on the OMSI bank. We believe this to be true because no highway facility is involved as is the case in the large slide where slide material continues to fall onto our highway. We also feel that they could help the erosion that has taken place on their bank by controlling the irrigation being performed at the top of it.

FB Klaboe
F. B. Klaboe
Assistant State Highway Engineer

FBK:srb

cc: Forrest Cooper
R. L. Porter - Please ascertain if it is o.k. to inform the OMSI people of this conclusion and advise me.
FBK

Memo to Comm.

FORM E-30 (REV. 10-69)

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon
June 8, 1970

SUBJECT: Highlands Interchange-Vista Tunnel Sec.
Sunset Highway
Multnomah County
OMSI Slide Correction

To: Mr. D. J. Barbee
Design Engineer
Salem

Enclosed are two estimates prepared by Mr. K. D. Limbocker for OMSI slide correction as recommended by our consultant, Shannon and Wilson. Two estimates were prepared--one for the two walls recommended in the amount of $28,450, and an additional estimate for the top wall only in the amount of $13,100 which was made at the request of Mr. A. V. Benedict. There is also enclosed a report by Mr. Benedict concerning the corrections recommended by Shannon and Wilson.

I recently discussed the OMSI slide corrections with Mr. Walt Wright of Shannon and Wilson, who stated that they believed the OMSI condition will be effectively stopped by the main rock buttress being installed at the present time and that the retaining walls would provide for establishing a stable slope at the OMSI location.

Also returned is the copy of Shannon and Wilson's report as you requested.

NOTED
F. B. KLABOE

A E Johnson
A. E. Johnson
Metropolitan Engineer

Refer to Gil Decker

AEJ:lh
Enc
cc: F. B. Klaboe

I concur with Benedicts observations
Decker

Routing
1. Barbee B
2. Hall
A. Olson
Sample
Terpin
Swenson
Trout
Wills
Hackleman
Scott
R. Olson
Carstensen

RECEIVED
JUN 9 1970
DESIGN DIVISION

SP*52475-734

FORM 2-30 (REV. 10-69)

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon
May 20, 1970

SUBJECT: OMSI Slide Correction

To: Mr. A. E. Johnson
Metropolitan Engineer
OFFICE

Herewith two copies of an estimate prepared by Mr. Limbocker in response to Mr. Barbee's letter of April 30, 1970. The amount of the estimate is $28,450 for the two walls as recommended by our consultant, Shannon and Wilson.

Also included are two copies of an estimate for constructing the top wall only. This separate estimate was at my request. The cost of the top wall only is $13,100.

Attached is my report on a study of Shannon and Wilson's recommendation and my own views on slide conditions at the OMSI building. My recommendation is somewhat at variance with that of the consultant.

Mr. Barbee's letter and a copy of Shannon and Wilson's report is returned herewith. Mr. Barbee's letter requested return of this report.

A V Benedict

A. V. Benedict
Assistant Metropolitan Engineer

AVB:lh
Enc

Report on OMSI Slide Correction Proposal

Reference is made to Shannon and Wilson's Subsurface Investigation report on the OMSI Facility dated April 27, 1970. Their recommendation was for two reinforced concrete cantilever walls--one at the top and one at the bottom of the slope. Estimated cost of these walls, including incidental grading, is $13,100 for the top wall only or $28,500 for both walls.

I have studied the report and supporting data and gone over the ground personally. I have also been associated with the area since before construction started on either the highway improvement or the OMSI building. I find that the main slide scarp crosses under the extreme southeasterly corner of the OMSI building, follows the building rather closely for about 50 feet westerly, then turns south and crosses the upper access road 100-plus feet westerly of the gore point. There has also been movement farther west. Both curbs of the upper access road are out of line. The movement has been mostly horizontal with some rotation. The movement appears to be quite deep.

The movement in the area of the proposed walls is probably drag from the main slide and should stop if the main slide is stabilized. Slide activity some 400 feet west of the gore point of the access roads is local and was in evidence before any highway reconstruction was begun. The OMSI people were warned of this slide condition when they started filling for their building.

As shown by Shannon and Wilson's report, about 10 feet depth of soil at the top of our access road slope is loose material with harder material below. Water probably collects on top of the harder material, contributing to the instability of the loose layer.

The OMSI people have an irrigation pipe paralleling the top of slope. Also, the roadway behind the building extension is drained by a siphon-type inlet in a shallow depression in the pavement. The inlet has a circular, slotted, cast iron grate which would easily plug with leaves. A large maple stands nearby to furnish the leaves.

Because of the general appearance, a washout around the manhole near the inlet and the presence of numerous small erosion channels in the grass above the slopes, I am convinced the sloughing has been caused by excessive watering, storm water overflow and, in the case of the "slump" shown on Shannon and Wilson's Fig. 1, a probably leaky irrigation pipe exposed in the back of the slump.

Recommendation:

The first consideration should be control of storm and other surface water. Some support is needed for the edge of the roadway adjacent to the building, but a flexible (bin type) wall would serve as well as the more expensive concrete cantilever. Such a wall should also be carried down to the firmer material. Some resloping of the top 10 feet of soil would be desirable.

I do not believe the slopes in the area of the proposed lower wall are unstable within themselves. They appear to have moved as a unit, the "bulging" referred to by the consultant being in an area farther west. Considerable hard material, probably clay, is in evidence and in these layers the vegetation has not done so well. The lower wall recommended by the consultant would merely ride the slide and serve no purpose except to retain some topsoil on the hard slope. The change in weight distribution, so far as the main slide is concerned, would be negligible.

Five pictures are attached, taken May 13, 1970.

AVBenedict.
A. V. Benedict
Assistant Metropolitan Engineer

AVB:lh
Enc

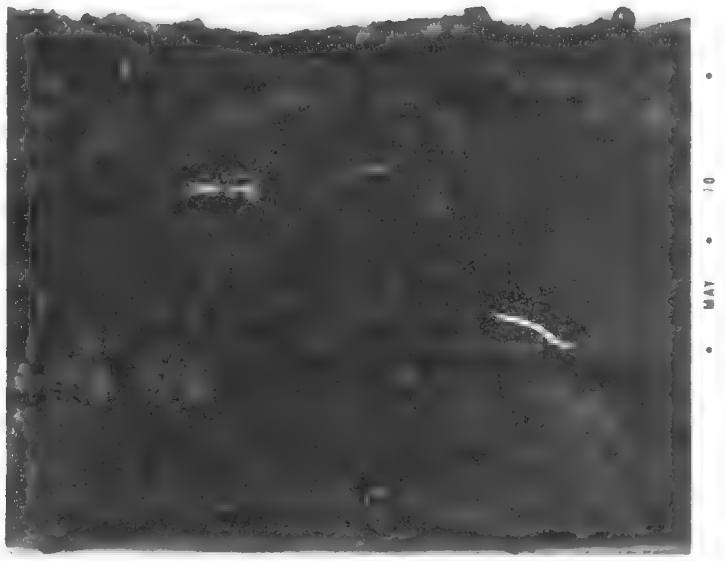
No. 1 A view looking northeasterly, parallel to present slope. Car in distance is on main slide while point in foreground is older, local slide.

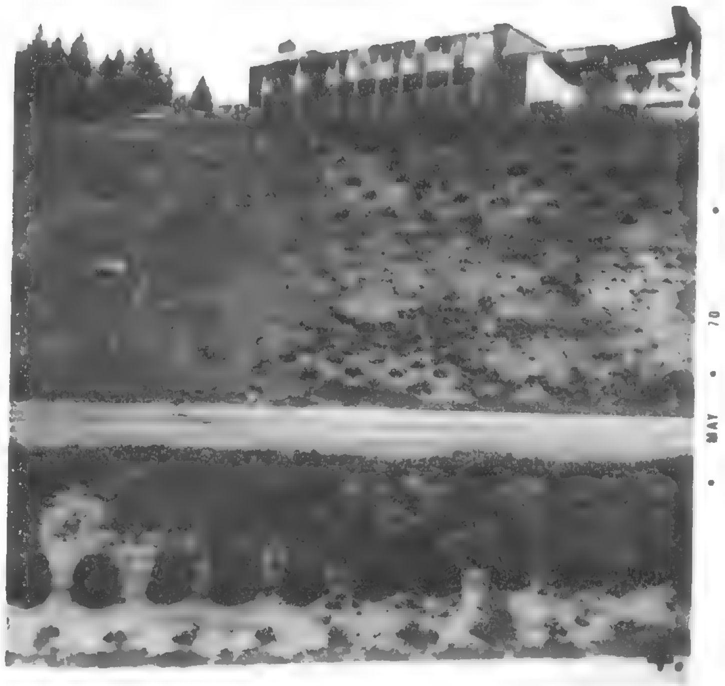
No. 2 More oblique view of same area as No. 1. Note "slump" or popout near top of slope in line with nose of bomber.

No. 3 Close-up of slump. Note irrigation pipe in back slope.

No. 4 A view of the area immediately west of the area of the proposed walls. Note slump in line with left corner of building. Material on slope in this and two preceding pictures is debris from "slump."

No. 5 View of slope in area of proposed walls.





No. 1 A view looking northeasterly, parallel to present slope. Car in distance is on main slide while point in foreground is older, local slide.

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No. 5 View of slope in area of proposed walls.

May 15, 1970

Form E-49

TABULATION SHEET

OREGON STATE HIGHWAY DEPARTMENT

SHEET 1 OF 1 SHEETS

OM.51 Slope Treatment
Upper and Lower Wall
Estimate

	ITEM		UNIT	AMOUNT	Allowance	Total	PRICE	TOTAL
Curb	Removal		Lin. Ft	400	40	440	.50	220^{00}
General	Excavation		Cu. Yd.	715	75	790	1.50	1185^{00}
C.C.	Mat'l	in Base	Cu Yd.	142	18	160	5.75	920^{00}
3/4"-0	Leveling	Course	Cu Yd	16	4	20	6.00	120^{00}
Conc	Curbs		Cu. Yd.	13	2	15	55.00	825^{00}
Class	B	"AC"	TON	143	15	158	10.00	1580^{00}
[illegible]	Perf	Met. Pipe	Lin Foot	252	24	276	2.50	690^{00}
[illegible]	C. MP		Lin Foot	92	10	102	2.50	255^{00}
T.E.			Cu Yd	29	3	32	6.00	192^{00}
Class	"A" Conc	in Walls	Cu Yd.	136	14	150	65.00	9750^{00}
Met.	Reinf	in Walls	lb	13875	1385	15,260	0.16	2441^{60}
T. E			Cu Yd.	690	70	760	7.00	5320^{00}
Special	Backfill	Mat'l	Cu Yd	26	4	30	7.00	210^{00}
								23,708^{60}
				+20	%			4741^{40}
				Total				28,450^{00}

May 15, 1970

Form E 49

TABULATION SHEET

OREGON STATE HIGHWAY DEPARTMENT

SHEET 1 **OF** 1 **SHEETS**

OMSI Slope Treatment

Upper WALL Only

ESTIMATE

	ITEM		UNIT	AMount	Allowance	Total	PRICE	Total
General	EXCAVATION		cu. yd	587	63	650	1.50	975^{00}
C.C.	Material	in Base	cu.yd	47	8	55	5.75	316^{25}
3/4"-0	Leveling	Course	cu. yd	5	3	8	6.00	48^{00}
Conc	Curbs		cu. yd.	1	—	1	55.00	55^{00}
Class	"B"	"AC"	TON	21	4	25	10.00	250^{00}
8"	Perf. Met.	Pipe	Lin. Foot	96	10	106	2.50	265^{00}
8"	C.M.P		Lin Foot	14	2	16	2.50	40^{00}
T.E			cu yd	4	2	6	6.00	36^{00}
Class	"A" Conc	in walls	cu yd	66	7	73	65.00	4745^{00}
Met.	Reenf	in walls	lb	7100	710	7810	0.16	1249^{60}
T.E			cu yd.	375	40	415	7.00	2105^{00}
Special	Backfill	Mat'l	cu yd	10	2	12	7.00	84^{00}
								$10{,}920^{85}$
			+20%					$2{,}179^{15}$
								$13{,}100^{00}$

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[illegible]

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE
Portland, Oregon
June 16, 1970

To: Memo to Files

SUBJECT: Zoo Slide Correction
Highlands Interchange-Vista
Tunnels Section
Contract #7186

Buttress Stability
See Shannon and Wilson Memo
to File dated June 10, 1970

A meeting was held in Shannon and Wilson offices at 1632 Morrison Street in Portland at 2 p.m. Monday, June 15, 1970, to discuss changed conditions applying to rock buttress construction at the Zoo slide. Present for the consultants were: Walter Wright, Rad Squier and Bob Deacon. Present for the State were: G. L. Decker, Ed Johnsen, Dan Gano, J. H. Versteeg, E. L. Scrivner and A. V. Benedict.

Consultant's personnel explained that the slip plane in the slide has so far proven to be much higher than anticipated in design of the buttress, resulting in a narrower buttress section at the point of application of slide forces. Computation of stresses based on this revised information results in a theoretical factor of safety below the design figures, as follows:

Station 99+00	F.S. = 1.10
" 100+00	F.S. = 1.15
" 101+00	F.S. = 1.17

The above figures were obtained, using a shearing resistance of 40° as had been used in the original design. Since the screened quarry rock is highly angular and very clean, a ϕ angle of 45° would be in order in computing F.S. so the buttress is not considered seriously deficient. Some additional beefing up of the section between Stations 98 and 101, however, and the consultants proposed the following alternatives:

1. Widen the buttress on the face side by an amount to raise the F.S. to a satisfactory value.
2. Steepen the front face slope of the buttress to increase the weight on the shear zone.
3. Increase the height of the buttress to increase the weight on the shear zone.

4. A combination of 2 and 3.

After discussion of quantities involved, and probable effect, it was decided that widening the buttress section on the face side would be most desirable for the following reasons: Increasing the height would apply the weight too far back to be effective. Steepening the front slope would probably not increase the weight sufficiently and would not increase the buttress section of the shear zone. This method might also result in a claim from the contractor. Increasing the thickness of the section without changing from the design slope would apply the weight at the most effective point, would increase the buttress section at the shear zone and would be limited only by the space available back of the design roadway slopes. It appears ample space is available in the critical area. Since the contractor has not built any of the front slopes, no claim should result.

The consultants will recalculate buttress values and inform me how much additional width they consider necessary at each station. This information is due Wednesday or Thursday. I will immediately contact Salem for authority to proceed.

The consultants expressed some concern that the buttress had been left narrow on top and none of it filled to design width and slope. It was decided to hold this in abeyance until figures on increased width are available, after which the buttress would be staked and the contractor required to fill to full section within a reasonable distance of his other buttress work.

Mr. Versteeg brought up the alleged lack of vibratory rolling brought out in the next to last paragraph of the consultant's memo. He stated that we did indeed curtail the rolling between Stations 98 and 99 because of a broken and ravelling slope which endangered the work, but that in all other areas the rolling was fully up to specifications. He pointed out that the spreading "cat" would immediately tear up the surface in working across it giving the loose appearance. It was our thought that this disturbed only the surface rock and might even serve to shift some deeper rock to a better keyed position.

At the close of the above discussion, I brought up two questions:

1. Where design slope for front of buttress coincides with highway design slope, would the consultants consider setting back, say 2 feet, to allow space for topsoil if at some future time it was decided to plant the slopes. It was made clear that if this required additional excavation, the matter was to be dropped. Consultants said they would look into the matter.

2. As long as the main slip plane is well above our bottom of buttress grade would it be necessary to subexcavate, as we have been doing? On this question, the consultants said that in their opinion there had been slippage on top of the rock and that subexcavation should be continued. It was pointed out to them that if the rockline followed the profile shown in their figure 25, subexcavation could run into considerable depth at Station 104, the end of the buttress.

A. V. Benedict
Assistant Metropolitan Engineer

AVB:lh
cc: F. B. Klaboe
F. D. Morgan
E. L. Scrivner
Dan Gano

RECEIVED
JUN 18 1970
OFFICE OF
STATE HIGHWAY ENGINEER

0-406A

REFERRED TO
[illegible]
Date: 6-12-70 by: [illegible]
For: Your information

Due Date:
Sent.

METROPOLITAN ENGINEER
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JUN 12 1970
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MEMO TO FILE

Job No. 0-406A

Conference Notes with Jim Versteeg
Oregon State Highway Department

Date: June 10, 1970

Recent preliminary calculations and visual observations of construction indicate that the as constructed factor of safety of the buttress (slide) will be somewhat lower than the design factor of safety of 1.25. This is primarily because, in certain areas of the buttress, the apparent main OMSI-ZOO failure plane, outcropping in the excavations, is at a higher elevation than assumed in design analyses. Recent preliminary analyses reveal that the as constructed factor of safety may range from about 1.11 to 1.25 with an average possibly in the order of 1.18, upon completion of construction.

As we discussed, an immediately apparent means of increasing the as constructed factor of safety would be to widen the buttress effectively resisting the slide. Other possibilities may exist, but these would require additional study.

As an alternate to widening the buttress other steps can be taken to improve the calculated factor of safety of the buttress such as:

1) Steepening the outer slope of the buttress,

and 2) increasing the height of the buttress.

Both these measures would effectively increase the resisting forces on the potential surface of failure through the buttress and, hence, increase the calculated factor of safety. Other measures to improve stability will also be studied and discussed with you at an appropriate time, although it should be accepted that the final as constructed factor of safety of the buttress may not realize the design value of 1.25.

With respect to our design analyses, we have assumed an effective angle of shearing resistance, ø', of 40 degrees. Crushed rock of the quality presently being incorporated in the buttress could conceivably be assigned, quite realistically, a higher value, which could measurably enhance an evaluation of buttress stability. To do so, however, would require a concerted effort of compaction during construction, as required in the specifications. As we discussed, at present, the buttress rock does not appear to be well-keyed. It appears loose. In part, this may be because of the method of placement, i.e., not in horizontal lifts, but also because of the amount of time spent in the compaction operations to date. We believe that construction procedures, placement of the rock and compaction of the rock should be examined in view of the foregoing.

We are continuing our evaluation of buttress stability and other studies related to steps that can be taken in improve the stability of the as constructed buttress. We will continually advise you of our evaluations and the results of our studies.

by Rad Squier
L. Radley Squier, P.E.

LRS:cam

cc: Mr. J. Versteeg (for information)

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OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
June 11, 1970

To: Memo To The File

SUBJECT: Safety Factor
OMSI-Zoo Buttress
Highland Interchange-
Vista Ridge Tunnel Section
Sunset Highway

Met with Radly L. Squire of Shannon & Wilson concerning the buttress safety factor. The exposed failure plane is higher than anticipated in the buttress. Preliminary computation places the safety factor in the 1.15 to 1.18 range. A safety factor of 1.25 was used in the original design.

Mr. Squire suggested three possible alternates.

1. Increase the height of the buttress five feet.
2. Increase the outer slope of the buttress from 2:1 to 1:75 to 1.
3. A combination of the above.

Shannon & Wilson will review their data and prepare some final recommendations to the Department.

A meeting has been set for 2:00 PM, June 15, 1970 at Shannon & Wilson's office. Mr. Decker and Dan Gano have been advised, Mr. Benedict and I will represent this office.

There will be two basic questions to be answered.

1. What factor of safety on the completed project is acceptable.
2. How to achieve this safety factor in the most reasonable fashion.

A. E. Johnson
Metropolitan Engineer

By: J H Versteeg

J. H. Versteeg
Assistant Metropolitan Engineer

JHV:pb

cc: F. B. Klaboe
D. J. Barbee
Gil Decker
Dan Gano
E. L. Scrivner

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STATE HIGHWAY ENGINEER

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OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE
Portland, Oregon
June 8, 1970

To: Mr. D. J. Barbee
Design Engineer
Salem

SUBJECT: Highlands Interchange-Vista Tunnel Sec.
Sunset Highway
Multnomah County
OMSI Slide Correction

NO
F. B. KLAB

Enclosed are two estimates prepared by Mr. K. D. Limbocker for OMSI slide correction as recommended by our consultant, Shannon and Wilson. Two estimates were prepared--one for the two walls recommended in the amount of $28,450, and an additional estimate for the top wall only in the amount of $13,100 which was made at the request of Mr. A. V. Benedict. There is also enclosed a report by Mr. Benedict concerning the corrections recommended by Shannon and Wilson.

I recently discussed the OMSI slide corrections with Mr. Walt Wright of Shannon and Wilson, who stated that they believed the OMSI condition will be effectively stopped by the main rock buttress being installed at the present time and that the retaining walls would provide for establishing a stable slope at the OMSI location.

Also returned is the copy of Shannon and Wilson's report as you requested.

A. E. Johnson
Metropolitan Engineer

AEJ:lh
Enc
cc: F. B. Klaboe ✓

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STATE HIGHWAY ENGINEER

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26-1121
7186

June 1, 1970

8504

Mr. Lyall A. Pardee
City Engineer
Bureau of Engineering
Department of Public Works
Los Angeles, California 90012

Attention Lloyd D. Paulsen
District Engineer
East Valley District

Re: Your File No. W.O. 81721 E.V.

Dear Sir:

Reference is made to your letter of May 20. With minor exceptions, the State of Oregon, in recent years, has not utilized the wire mesh method for rock slide control. We have used presplit blasting, fallout areas, gunite seals and rock bolting at various times and places.

Wire mesh was used to control some rock slide areas in the vicinity of the Vista Ridge Tunnel in Portland both in 1966 and 1969. This was small-scale force account work and plans and specifications are sketchy (see attached).

For your information, we are submitting two articles describing an installation in Weber Canyon in Utah.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

Tom Edwards
Assistant State Highway Engineer

Attachments

bc Forrest Cooper
R. L. Porter
Victor D. Wolfe
E. S. Hunter
R. D. Asburry

CMW:mp ja

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LYALL A. PARDEE
CITY ENGINEER
LOS ANGELES 90012

10390

REFERRED TO
Edwards
BY DEPUTY STATE HIGHWAY ENGINEER

Mr. Forrest Cooper
State Division of Highways
State of Oregon
Salem, Oregon 97310

DATE May 20, 1970
FILE NO. W.O. 81721 E.V.
SUBJECT La Tuna Cyn. Rd. (S/S) (Rock Control) from 12,410' W/O to 12,610' W/O Tujunga Cyn. Blvd.

Dear Mr. Cooper:

In connection with the subject project, this office intends to construct a chain link mattress on the slope of a section of La Tuna Canyon Road to control rolling rock.

We know that your Department has had experience in the control of rocks on the slopes above the highways in the Columbia River Gorge.

Any information, sketches, drawings and/or specifications that you have available for our use would be greatly appreciated. Please send the material to the East Valley District office of this Bureau at 14410 Sylvan Street, Van Nuys, California 91401.

Thank you for your assistance.

Very truly yours,

LYALL A. PARDEE, City Engineer

By

Lloyd D. Paulsen
Lloyd D. Paulsen-District Engineer
East Valley District

LDP
Enc.

MAINTENANCE ENGINEER
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OFFICE OF
STATE HIGHWAY ENGINEER

Estimate installation of wire mesh slope protection
[illegible] 2/[illegible]/69

Material :

18,200	Sq. Ft.	12½ Ga. Wire Mesh	@ $0.10	=	$1,820.00
150	Each	#8 Re. bars 4' long	@ 1.00	=	150.00
80	"	Hog Rings	@ 0.25	=	20.00

Total = $1,990.00
Total Plus 15% → $2288.50

Labor :

194 Hrs.	Labor	@ $5.40	=	$1,047.60
48 Hrs.	Labor Foreman	@ 5.77	=	276.96
8 Hrs.	Operator (T.C.)	@ 7.53	=	60.24

Total = $1,384.80
Total plus 20% → $1,661.76

Equipment :

48 Hrs.	¾ Ton Pickup	@ $2.10	=	$100.80
8 Hrs.	Truck Crane 12,000#	@ 11.70	=	93.60

Total = $194.40
Total plus 15% → $223.56

Total Estimate $4,173.82

$4,173.82 ÷ 18,200 = $0.229 /sq. Ft.

Job No. ....

Sheet ..... of ..... Sheets

OREGON STATE HIGHWAY DEPARTMENT

Cost For Installation of Wire Mesh Slope Protection

2/13 1969 Checked by .... 19 .... Backchecked by 19

Note: Following Unit Prices Based on E.W.O. No. 6 for Vista Ridge East Bound Tunnel, Cont. No. 6718 - Approx. Date: 6-21-66

Chain Link Fabric = $0.10 per sq. ft.
7/8" 6/25 - FC Wire Rope = $0.12 per lin. ft.
7/8" Cable Clamps = $0.20 per clamp.
Installation Cost per sq. ft. (Calcu. Below) = $0.061 per sq. ft.

- Calculate Cost For Installation as per E.W.O. No. 6.

Equipment:	Hrs.	Rate	Cost	
Dragline 3cy	1 hr.	$31.20/hr.	$31.20	
Forklift 5000#	6½ hrs.	4.50/hr.	39.25	
Total			$69.45	
Total Plus 15%				$79.87

Labor	Hrs.	Rates for 2-17-69 + 15%	Cost	
Operator (D.L.)	1 hr.	6.85/hr.	6.85	
Operator (F.L.)	6½ hrs.	6.12/hr.	52.02	
Oiler (D.L)	1 hr.	5.87/hr.	5.87	
Carpenters	39	6.10/hr.	237.90	
Laborer	9½	4.95/hr.	47.03	
Carpenter Foreman	10½	6.99/hr.	73.40	
Total			$423.07	
Total Plus 20%				$507.68

Total for Equipment & Labor → $587.55

Total Area Installed 9,620 s.f.

Cost per Sq. ft. $\frac{587.55}{9,620}$ = $0.061 per sq. ft.

Chopper

SPOTTING FABRIC—Helicopter hovers over crewmen on slope while they join lower end of suspended sheet to completed part of drape with hog rings. Pilot then will move his machine down the slope to lay the fabric in place over face of cut.

A Utah contractor, required to blanket an unstable rock cut with chain-link fencing, hired a helicopter to handle the lifts. Men with pole-climbers' spurs on their feet scrambled over completed sections of the drape to receive airborne sheets and secure them to sheets already in place. Wind and dust were big problems.

X

Places Rock-Drape Fabric

A UTAH CONTRACTOR is using a helicopter to drape chain-link fencing over the face of an unstable rock cut for slide protection.

Gibbons and Reed Co., of Salt Lake City, turned to the chopper operation early this spring when recurrent slides in a cut only partially completed brought work to a halt on their Interstate 80N highway project near Morgan, Utah. In 13 working days, a ground crew of six men and the helicopter pilot draped an area almost 1,000 ft across at the bottom, 300 ft wide at the top, and 300 ft high with sheets of fencing. This secured the slope so that work could be resumed on the excavation.

Since then, the same gang has put in another 15 days—mostly on weekends — to extend the drape down the face as the cut deepened. In spite of multiple hazards — gusty winds, swirling dust, and tumbling rocks—they have averaged about 28 rolls of 10x50-ft fencing per day. The helicopter logs about 6 to 7 hr each good flying day.

Both the contractor and the Utah State Dept. of Highways realized at the start of the job that the unstable rock in this particular cut posed a problem that would have to be dealt with one way or another. At this point in Weber Canyon, finely fractured strata of limestone and quartzitic silicate rocks dip steeply toward the canyon. The broken formations extend to an unknown depth into the canyon wall—the cut so far has penetrated more than 75 ft without reaching sound rock—and every blast threatens to jar loose tons of rock from slopes that are supposedly trimmed to final profile.

When falling rock made further excavation too hazardous, the job was shut down. The highway department and the Bureau of Public Roads ordered G&R to install a full drape on a force-account basis before proceeding with the cut.

Since this was a first for Utah, and among the first half-dozen such drapes in the western states, the details of the installation were left entirely up to the contractor.

On other jobs of this kind, cranes have been used almost exclusively to place the fabric *(see CM&E, August 1956, p. 120)*. But the Weber Canyon cut is greater in both height and lateral depth than the others, and would have required a crane with an impractically long reach. After weighing alternatives, Gibbons and Reed decided that a helicopter could do the job faster and easier than a crane.

The Bell helicopter used on the job, piloted by Bob Hosking, is furnished for $130 an hour by Mountain West Helicopters of Salt Lake City. A foreman and a mechanic — Jim Payne and Howard Holladay — work as ground crew to feed rolls of fencing to the chopper. Three other foremen and a machine operator—Jack Huff, Glendon Mills, Lynn Smith, and Calvin Hubble—make up the mountain-goat crew that is stationed on the slope; laborers wanted no part of the job.

DUST CLOUD — Rock fines blown from the cut make work hazardous for men on slope. Chin straps secure hard hats in gale.

Fifteen or so special cable slings were made up for lifting the fabric. The essential feature of the hoisting method is that the helicopter pilot can slip the sling off his hook at any time—either to fly off after another roll, or to save his ship from a crack-up. (On several occasions, Hosking has had to drop his load and beat his way to safety in the teeth of tricky winds.)

Payne and Holladay hook slings to the ends of rolls of 9-gage galvanized iron fencing on the

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Payne and Holladay hook slings to the ends of rolls of 9-gage galvanized iron fencing on the

X

ground. As the helicopter lifts each sling, its roll unwinds and the fencing is carried away as a suspended sheet.

At the cut, the free end of the sheet is lowered to the waiting crewmen on the slope. The men make a quick temporary connection with hog rings. Then the helicopter descends along the slope to lay the fabric over the rock face.

When the sheet of fencing is properly aligned—sometimes this take several relifts and repositionings—the pilot drops the sling and slants away to pick up another sheet. In the meantime, the four men on the slope stitch the positioned sections together with wire and cable.

Copter Drafts Make Work Hazardous

It's no picnic working on the drape. Huff, Mills, Smith, and Hubble wear electric linemen's gaffers, or pole-climbing spurs, to give them surer footing on the fabric. But working beneath the hovering helicopter they are blasted by the draft from the rotors, choked by clouds of dust, and threatened by chunks of rock released when fines are blown out of fissures.

These hazards are the main reason for using so many slings. The dropped slings are left hanging from the fencing sheets until stitching makes a good-sized area of drape safe to climb down on. Then the men descend and disengage a number of slings at one time and drop them down the slope. The men of the ground crew collect the slings and hook them onto other rolls in the stockpile.

Additional safety for the men on the fabric is provided by life lines anchored at the top of the cut. Chin straps keep hard hats from blowing off in the copter draft.

Unpredictable winds in the canyon are the chief hazard to the helicopter. Bill Nielson, the project superintendent, and Hosking had the crew set up six flags as wind indicators at various points at the top and bottom of the cut. Taking his cues from the flags, the pilot judges his approach to the face and delivers each strip of fabric just where it is wanted.

But it's not always too clear just what the flags are trying to say. Nielson tells this story: "One morning Bob asked me to go up with him to take a look at something. When we got into the cut, he told me to look at the flags. You wouldn't believe it, but two flags at opposite ends of the cut were blowing straight toward each other. I told Bob to put me down quick."

Anchorage for the drape at the top of the slope consists of a line of standard galvanized fence posts set in drill holes. The depth of the holes varies from 4 to 8 ft, depending on the condition of the rock. The posts project about 2 ft out of the ground.

The top edge of the drape fabric is folded once around a continuous pipe, then impaled on the posts so that the pipe bears against the uphill side of the anchor posts at the ground line. The free edge of the fabric lies downhill in front of the posts.

All laps between fencing sheets are at least 6 in. On the advice of highway engineers, the roughness of the rock slope is counted on to support much of the total weight of the drape. The installed cost of the fencing turned out to be 21 cents a sq ft for 130,000 sq ft of the material.

Gibbons and Reed have completed four other cuts on the project by presplitting the backslopes, then blasting out almost one million yd of rock. Hercules AN-FO explosives were used almost exclusively.

Typical shots involved about 12 tons of powder and had to be timed to be set off between the appearances of some 36 daily trains on a Union Pacific Railroad line at the bottom of the canyon. In places the tracks are less than 100 ft from the highway cuts.

According to Nielson, G&R's powder man is one of the best in the business. None of his blasts ever threw rocks onto the tracks, although at times secondary slides did reach the rails. Rubber-tired loaders always managed to clear way the rubble before the next train was due.

In the congested canyon, the new highway swings over the river a number of times on G&R's 3½-mi. section. In several places the road curves out over the river on concrete bent-and-girder structures, then back to the same side of the canyon. The longest of these bridges carries the highway 960 ft along the riverbed, above the railroad tracks.

Earthmoving equipment on the project includes ten Haulpak and Pay Hauler end dumps, a 5½-yd Northwest 180 shovel, a Caterpillar 988 loader with a 5½-yd bucket, a Kolman loader, three Cat D8 dozers, one D9, and two Euclid C-6 dozers.

FABRIC PICKUP—Men at stockpile make hookup between bird and lifting slings. Pilot can drop load instantly to save ship.

Circle 101 on Reader Service Card ➤

Highlights from the WASHO meeting

A great many excellent papers were presented in July at the Hawaii meeting of the Western Association of State Highway Officials. Here are shortened versions of four dealing with the use of a helicopter to place chain-link fence for slope protection, the pros and cons of lump-sum bidding, the use of emulsified asphalt to stabilize base and the problem of labor compliance.

Helicopter places chain-link on slope

By BLAINE J. KAY
State Highway Engineer
Utah State Department of Highways

IT WAS THROUGH two comparatively short canyon sections that Utah has experienced some of its most difficult and costly rural interstate construction. These are on Interstate Route 80-N, which extends through Weber Canyon from Echo to its junction with I-15 near Ogden. This section was added to the Interstate System after the original 1956 Highway Act. In general, its course follows quite close to that of the Weber River. The terrain varies from 4 to 5 mi.-wide agricultural valleys to narrow, crooked, deep canyons with towering limestone walls on either side.

Presplitting was prescribed as a requirement in the blasting of the five cuts on one project. The presplit blasting and vertical cut slopes worked very well on four of the cuts; however, the largest cut could not be handled in this manner.

Soon after the excavation of this cut started, it became apparent that the badly fractured and folded characteristics of the material were not conducive to either pre-splitting or vertical slopes. The cut was re-staked on a ¾:1 slope increasing the height of the cut to about 315 ft. The cut was to be taken down on this slope until a more solid formation was encountered. About 150 ft. below the top of the cut, it was decided to follow normal drilling and blasting procedure and to slope the cut down on the normal fracture plane slope of approximately ½:1. By this time, however, the hazardous working conditions, because of falling rocks, was so critical that work was stopped until some remedy could be provided. It was finally decided that a curtain of chain link fencing would be draped over the face of the slope.

Several methods of installation using different types of equipment were considered. It was finally decided that the lifting and positioning of the wire fabric could be accomplished faster and at less cost by a helicopter. The method used in handling the wire was to suspend a cable sling from the under side of the helicopter, which was hooked directly to the wire at the outside edges of the 10 ft. wide x 50 ft. long roll. The lifting sling was so rigged that it could be dropped by the pilot at any time in case of emergency. The wire fabric was anchored at the top of the cut to a row of pipe posts drilled into the rock.

The 'copter would lift the 50 x 10-ft. roll of 9-gage wire, then lower it to high scalers working on the face of the cut, who would fasten it in position. Hog ring fasteners were used to tie the wire both vertically and horizontally after other methods tried were found to be slow and cumbersome.

The helicopter proved to be a very versatile, dependable and efficient construction tool. In one 6½ hr. day, 16,000 sq. ft. of fencing was installed. The entire amount of 143,750 sq. ft. was placed in 69.9 hr. of actual helicopter time. The cost of fence in place was $0.24 per sq. ft. Costs ranging from 40 to 80c per sq. ft. were reported by another state on cuts of lesser height, using more conventional lifting equipment.

Even though this method of slope treatment was not completely successful, since sizable sections have been torn and pulled down by massive rock falls after completion of the project, it did perform the prime function for which it was intended, that being protection of workmen from the hazard of falling rocks.

In retrospect, we now feel that hog ring fasteners did not provide the strength necessary for the horizontal seam. Lacing with ⅜-in. wire rope would undoubtedly have provided more seam strength and prevented some of the failure. We also believe that it would have been better to leave every other vertical seam unfastened so that in case of massive slips, only small sections of the mesh cover would be jeopardized. A cable lacing with clamps attached to wire at about 25 ft. intervals and anchored to the pipe posts at the top of the cut would also have added greatly to the strength of the installation, thereby making the installation more effective as a control of falling rocks.

Lump sum bidding

By M. WEBB
State Construction Engineer
Wyoming Highway Department

IN THE CASE of structures that have set quantities and the plans and specifications are well enough detailed to establish well-defined end results, the lump sum bid is often advantageous. A great deal of time and money can be saved in design and construction if minor items do not have to be broken down into units. The contractor and fabricator can take advantage of economical methods without having to worry about minor individual units within the structure.

Several years ago the Wyoming Highway Department began paying for structural steel on a lump sum basis. The bridge design division felt that variations in fabrication plant methods could reduce or increase the weight of steel required by the particular fabrication method without affecting the design of the structure. By showing the essential design requirements and with specifications with sufficient detail, the fabricators can estimate the steel required, according to their particular methods, to a much finer degree than our

(Continued on page 52)

The lump sum price has reduced our design engineering time in that the main steel is estimated with the percentage added for such items as nuts, bolts, welding rods, gussets, and other appurtenances that must be added to the steel price. Our design section has been told that their estimates are now within plus or minus 2.5% of the actual cost. This 2.5% is not critical in the construction of the bridge but has caused considerable office and field engineering in the past to justify final pay quantities. When we were paying on a weight basis, nearly every final was questioned by every engineer or accountant who reviewed it. Another argument for a lump sum payment is that actual weights could be and have been boosted by the fabricator under the weight basis and he would be paid for something that was of no benefit to the state. In Wyoming we have had very few occasions to negotiate added payment except for actual design changes.

From the supplier standpoint, the lump sum has aided in that the supplier can use the estimated weights provided on the plans in computing his quotation. Otherwise, they would have to recalculate their weights to take in account scrap, connections, etc. until they agreed with the designer's estimate before they could arrive at unit cost for their quotation. While the preference for lump sum is rather selfish in this regard, it tends to provide a fair and equitable method both for the supplier and the customer whenever the overall scope of the work can be determined from the job drawings or plans.

The lump sum bid can also be of advantage in cases where a performance type plan and specification can detail the minimum requirements and not tie the contractor down to certain manufactured products. In this case, the inspection should be conducted on the item meeting certain layout and performance type plans and specifications within the minimum requirements. A good example of this type of item would be a building, storage shed, or the like.

The lump sum does not lend itself readily to most items in road design. Usually the items are not well enough defined and are subject to change because of field conditions. It is not economical to spend the needed time and money on preliminary surveys and design to tie roadway quantities down to a point where they could be bid on a lump sum basis.

On the other hand, lump sum bidding seems to be the standard for such things as clearing and grubbing, [illegible] picnic tables, rest room facilities, and lighting facilities where these quantities are well defined.

From the contract administration standpoint, there are probably more disadvantages to the lump sum payment. There is less flexibility in administering the contract. There is the difficulty usually encountered in making partial payments, in settling claims and the complications experienced when quantity overruns or underruns. The specifications would have to provide a well defined method for price adjustment, due to any revision in the plans after the award.

Basically speaking, it is better when a change of conditions occurs on a project to adjust a unit price item than to try and arrive at a fair and equitable price adjustment on a lump sum item. Therefore, careful consideration should be given to an item before it is contracted for on a lump sum basis.

From the contractor viewpoint, the lump sum can be cumbersome. In most states he usually does not have enough time during the preparation of bids because of the number of projects advertised at the same time. Therefore, he depends on a ready-made list of items in which to prepare his bid, whereas he would have to spend more time to determine the components of the lump sum item. This could lead to the preparation of an unrealistic bid unless the plans were very complete in all details.

With the added emphasis on documentation in recent years and the shortage of competent help, there has been a tendency to favor lump sum the need for careful survey and design. Unfortunately, the desire to use lump sum items is often derived not from sincere study and sound application of common sense, but rather from a habit of being lazy and trying to find an easy rather than a correct solution.

Some criteria that offer adequate guidelines for determining when an item should be bid as a lump sum are as follows:

A. It should be an industrially manufactured item subject to rigid industry requirements.

B. It should be well detailed and described in the plans and specifications so there can be no doubt as to what is expected.

C. It should be an item that could not reasonably be expected to change, regardless of field conditions.

D. It should be an item involving many different manufactured components that can be set forth on the plans and not subject to change. This would relieve the need, for example, of 100 bid items for a lighting system.

E. It should not be any item that is manufactured on the job site itself.

In regard to this last point, it should be noted that many states contract concrete, especially Class A concrete, on a lump sum basis. Bear in mind, however, that it is not manufactured at the job site but rather adjacent to it and again under rigid control conditions.

Use of emulsified asphalt on bases

By CHARLES R. LOWRIE
Assistant Staff Materials Engineer
Colorado Department of Highways

DURING THE PAST 15 years the Colorado Department of Highways has gained a wide experience in the stabilization of sands. Most of this stabilization work has been done in the plains area of eastern Colorado where there is an acute shortage of gravel and ledge rock. In this same area, however, wind blown (dune) sands and streambed sands are quite often available. Under these circumstances, there is a strong economic motivation to upgrade the locally available sands to satisfactorily serve in the roadbed structure.

We have used stabilized sands for subbase, base course, and asphalt surface course. As the stabilizing agent, we have used MC- and RC- cutback asphalts, asphalt cement of various penetration grades, emulsified asphalts, portland cement and hydrated lime. We always make laboratory tests using the various types of stabilization proposed for the particular sand that is available. Selection of type of stabilization is based on the most economical type that will satisfy design criteria and provide satisfactory working conditions.

Within the last five years, emulsified asphalt has become available from plants in Colorado, and this opened up a new field with regard to sand stabilization—at least new to us. Our success with the use of emulsified asphalt to stabilize sand has been such that, presently, our

(Continued on page 57)

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FOR FILE
26-1181
7186

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
May 20, 1970

SUBJECT:
Highlands Interchange - Vista Ridge Tunnel Sec.
Sunset Highway
Multnomah County
Contract No. 7186

To: Mr. A. E. Johnson
Metropolitan Engineer
OFFICE

Att: Mr. J. H. Versteeg

Herewith pictures and computations in connection with providing a 10' shoulder throughout northerly side of project. To accomplish this will require three small cuts to be made between Sta. 85+05 to Sta. 85+75, Sta. 91+45 to Sta. 91+92, and Sta. 92+75 to Sta. 92+95. Proposed cuts are based upon a 1½' berm and 1 : 1 backslopes, and will require a total of 189 CY of excavation.

Ernest L. Scrivner
Ernest L. Scrivner
Resident Engineer

Full shoulders throughout
5-28-70

orig. file
to Bond
5-28-70

This file handed to Gil Decker
5-25-70 H. Versteeg

FORM E-103 10M
5P*F62

OREGON STATE HIGHWAY DEPARTMENT

EARTH WORK COMPUTATION SHEET

SECTION [illegible] HIGHWAY Sunset LINE L9
PREFIX NO. [illegible] CONTRACT NO. [illegible] SHRNK OR SWELL FACTOR

STATION		AREA		VOLUME		ADJUSTED FILL VOLUME	SUMMATION
		CUT	FILL	CUT	FILL		
55+05		0.0					
	10	wedge		21.07			
55+15		113.76					
	15			47.03			
55+30		55.55					
	20			26.02			
55+50		14.71					
	25	wedge		6.81			
55+75		0.0					
				100.93			
91+45		0.0					
	5	wedge		1.76			
91+50		19.02					
	10			19.36			
91+60		85.50					
	10			30.59			
91+70		79.68					
	22	wedge		32.46			
91+92		0.0					
				84.17			
92+15		0.0					
	20	wedge		3.50			
92+95		9.46					
		—Abrupt—					

188.60 x 4.00/cu yd bid = $755

+ add'l shld. rock paving

PAGE TOTAL	188.60 cu.yds.	
SUB TOTAL		

IBM NO

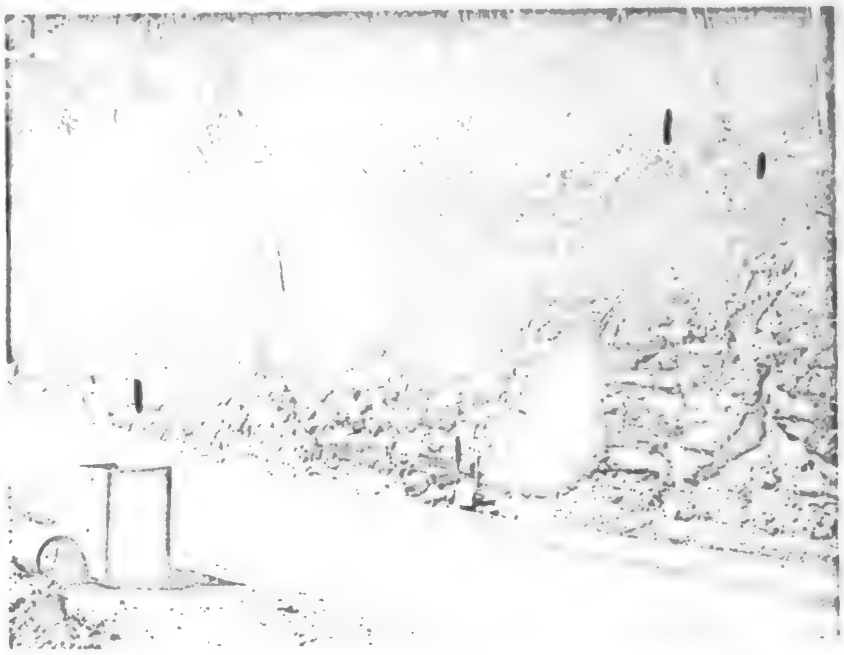
PAGE NO.

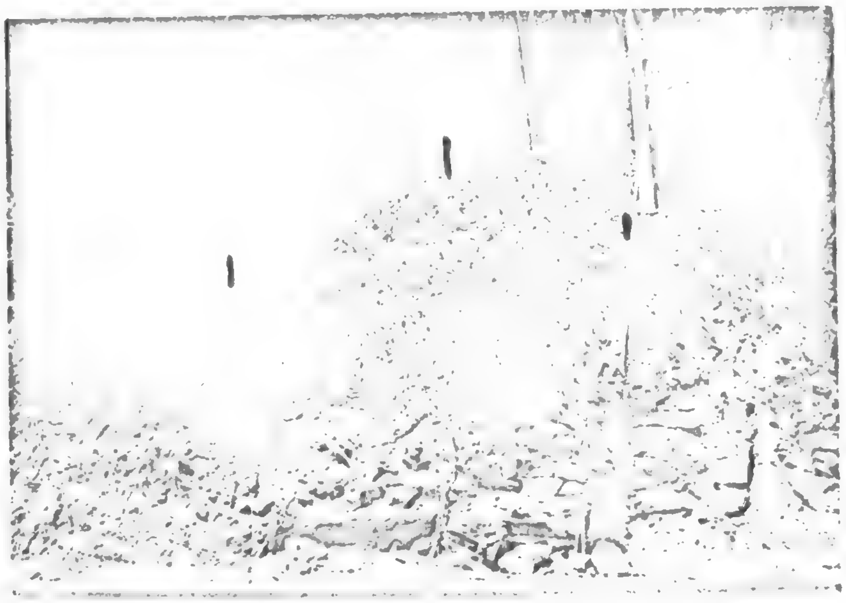
HIGHLANDS INTERCHANGE-VISTA RIDGE TUNNEL
SUNSET HIGHWAY
Multnomah County
Prefix 26-1181

Sheet No. ____

1. Proposed cut on Rt. between Sta. 85+05 and 85+75.

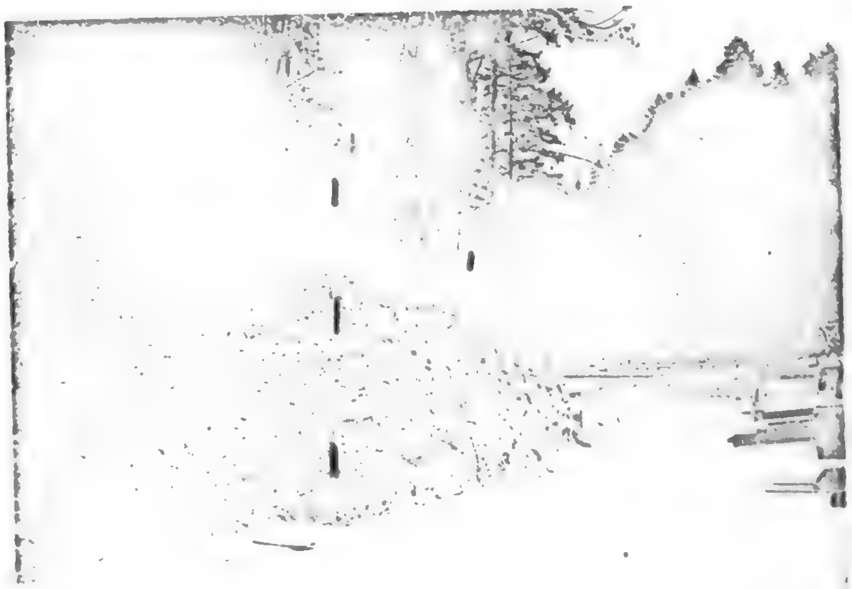
Blue indicates Berm line and grade, Red indicates slope catch.





2. Proposed cut on Rt. between Sta. 85+05 and 85+75.

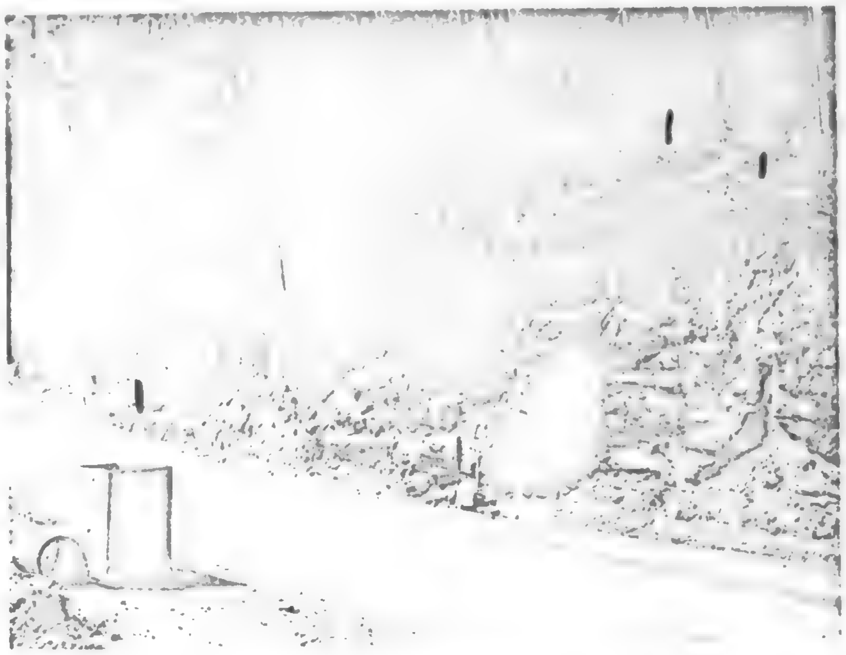
3. Proposed cut on Rt. between Sta. 85+05 and 85+75 looking Bk.

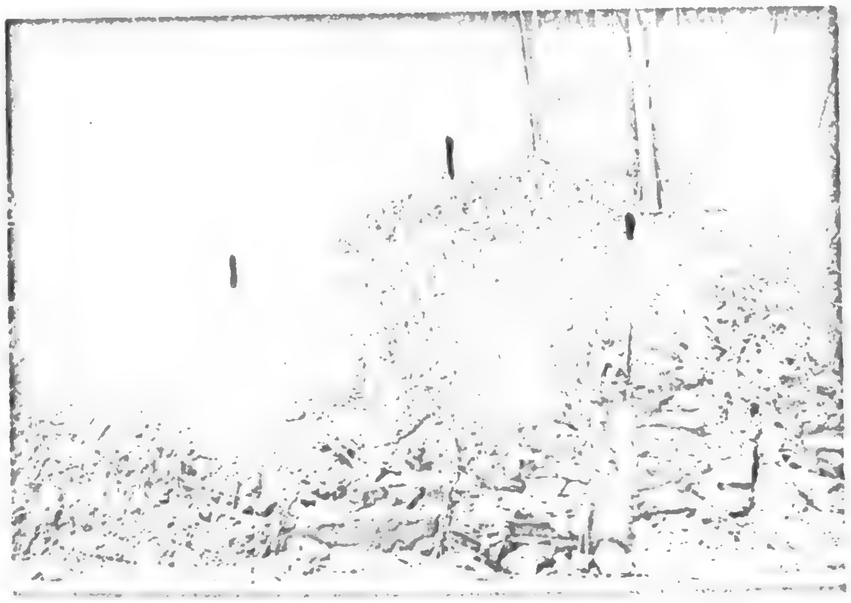


HIGHLANDS INTERCHANGE-VISTA RIDGE TUNNEL
SUNSET HIGHWAY
Multnomah County
Prefix 26-1181

Sheet No. ____

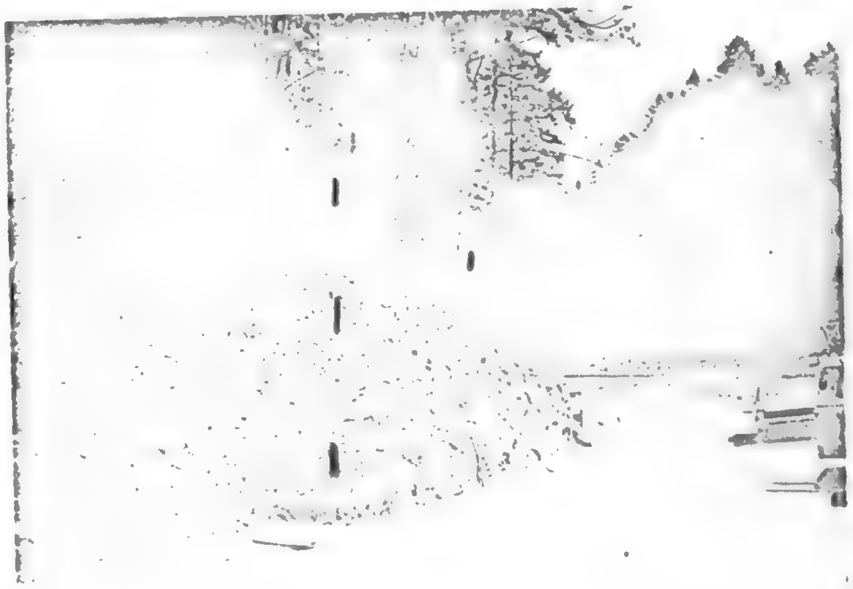
1. Proposed cut on Rt. between Sta. 85+05 and 85+75. Blue indicates Berm line and grade, Red indicates slope catch.





2. Proposed cut on Rt. between Sta. 85+05 and 85+75.

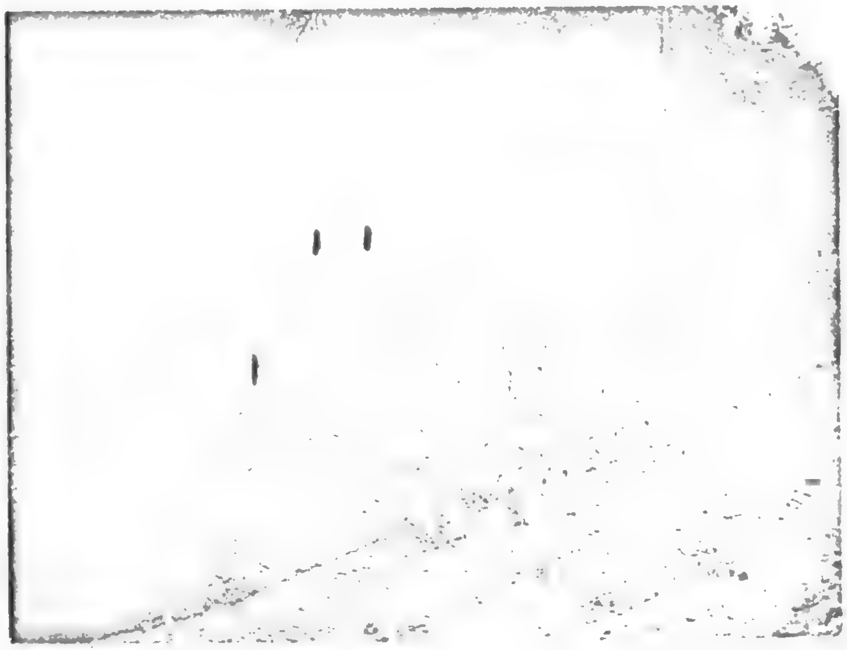
3. Proposed cut on Rt. between Sta. 85+05 and 85+75 looking Bk.



HIGHLANDS INTERCHANGE-VISTA RIDGE TUNNEL
SUNSET HIGHWAY
Multnomah County
Prefix 26-1181

Sheet No. ____

1. Proposed cut on Rt. between Sta. 91+45 and 91+92. Looking Ah. Blue indicates Berm line and grade, Red indicates slope catch.



2. Proposed cut on Rt. between Sta. 91+45 and 91+92 looking Bk.

3. ____

[illegible] -VISTA RIDGE TUNNEL
SUNSET HIGHWAY
Multnomah County
Prefix 26-1181

Sheet No. ____

1. Proposed cut on Rt. at Sta. 92+75 Ah.

Blue indicates Berm line and grade, Red indicates slope catch.

2. Proposed cut on Rt. between Sta. 92+75 and 92+95.

3. Proposed cut on Rt. between Sta. 92+75 and 92+95, looking Bk.

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MAY 22 1970
FOR FILING
26-1181
1186

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
1632 S.W. MORRISON STREET • PORTLAND, OREGON 97205
TELEPHONE (503) 223-6147

INVOICE NUMBER
239

TO

Oregon State Highway Department
City of Portland
State Highway Building
Salem, Oregon

Attention: Mr. F. B. Klaboe, Asst. State Hwy Engineer

INVOICE DATE	CONTRACT OR PURCHASE ORDER	AUTHORIZED FEE	JOB NUMBER
5/20/70			0-406A

PROFESSIONAL SERVICES

ENGINEERING SERVICES	87½ hours $587.15 x 2.5	$1467.88
REIMBURSABLE EXPENSES		196.92
		$1664.80
	Invoiced 3/18/70	3234.32
	" 4/30/70	2384.54
TOTALS		$7283.66
	Maximum agreed fee	6500.00
	Pay this amount	$ 881.14

NOTED
F. B. KLABOE

RECEIVED
MAY 21 1970
OFFICE OF
STATE HIGHWAY ENGINEER

THIS PERIOD: FROM 4/1/70 TO 4/30/70

☐ PROGRESS INVOICE ☒ FINAL INVOICE

JOB REFERENCE:

Slope stability investigation, OMSI, Portland, Oregon

Ref'd to Skoog
5-22-70

TERMS: NET 30 DAYS. PLEASE PAY FROM THIS INVOICE. STATEMENTS SENT ONLY UPON REQUEST.

[illegible] WILSON, INC.

5/20/70
Invoice 239

BREAKDOWN OF LABOR:

G. Gehrke	Clerical	11½ hrs	@ 2.769/hr	31.85
L. R. Squier	Prin Engr.	35 "	@ 8.942	312.97
P. B. Kelly	Engineer	17 "	@ 6.087	103.48
C. MacKenzie	Draftsman	15½ "	@ 2.654	41.13
R. Ballweber	Lab Technician	½ "	@ 3.548	1.77
T. Kinney	Engineer	7 "	@ 6.394	44.76
R. Deacon	Geologist	1 "	@ 7.702	7.70
		87½ hours		543.66
			+8%	43.49
				587.15

BREAKDOWN OF REIMBURSABLE EXPENSE:

Reproduction	56.05
Photos	111.50
Telephone	5.83
Computer charge	23.54
	196.92

RECEIVED
LEE JOHNSON
ATTORNEY GENERAL
MAY 18 1970

FILE CLAIM

26-1181
7146

STATE OF OREGON
DEPARTMENT OF JUSTICE
SALEM, OREGON 97310

507 State Highway Building

May 15, 1970

CERTIFIED MAIL

Mr. Robert L. Racken
Attorney at Law
901 Public Service Building
Portland, Oregon 97204

Re: West Slope Water District Claim

Dear Bob:

Please find enclosed herewith Oregon State Highway Department Highway Fund Warrant No. 035325, payable to West Slope Water District, in the sum of $3,167.19, in full payment for the release which was signed by your client on April 16, 1970.

Very truly yours,

LEE JOHNSON
Attorney General

Frank C. McKinney
Assistant Attorney General
Trial Division

FCMcK:hg
Enclosure - Check $3,167.19

cc - Mr. F. B. Klaboe
Mr. E. S. Hunter
Mr. V. E. Skoog
Mr. L. I. Lindas

NOTED
F. B KLABOE

RECEIVED
MAY 1 [illegible]
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
LEE JOHNSON
ATTORNEY GENERAL
MAY 18 1970

26-1181
7146

STATE OF OREGON
DEPARTMENT OF JUSTICE
SALEM, OREGON 97310

507 State Highway Building

May 15, 1970

CERTIFIED MAIL

Mr. Robert L. Reckon
Attorney at Law
901 Public Service Building
Portland, Oregon 97204

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Attorney General

Frank C. McKinney
Assistant Attorney General
Trial Division

FCMcK:hg
Enclosure - Check $3,167.19

cc - Mr. F. B. Klaboe
Mr. E. S. Hunter
Mr. V. E. Skoog
Mr. L. I. Lindas

NOTED
F. B. KLABOE

RECEIVED
MAY 1
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
MAY 13 1970

[illegible]
26-1181
7186

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
May 7, 1970

SUBJECT: West Slope Water District

MISC. CONTRACTS and
AGREEMENTS No. 3933

To: Floyd Query
Commission Secretary

BUILDING

Herewith two copies of the release from the West Slope Water District.

The Construction Division has furnished us with a State Force Order to cover this payment, and a voucher has been prepared to make payment. The warrant will be given to Frank McKinney to mail to the water district.

V. E. Skoog
Controller

By:

D B Taylor

D. B. Taylor
Assistant Controller

DBT:ms

Attachments
cc: F. B. Klaboe
Frank McKinney

NOTED
FLOYD QUERY

RECEIVE
MAY 4 - 1970
FOR FI

26-[illegible]
7111

To; Oregon State Highway Commission
Salem, Oregon

CC: Mr. Larry Rulien, Division Engineer
9200 S.E. McLoughlin Blvd.
Portland, Oregon

Ref: (a.) Letter Harry B. Buckley to J.F. Macdonald dated 11/19/69.

(b.) Letter J.F. Macdonald to Harry B. Buckley dated 7/22/69.

(c.) Ordinance No. 107070 Slope Easement City of Portland to Sate of Oregon Highway Dept. Dec. 11,1957.
"Reserving, howerve for service of the grantor's remaining real property one right of access, 30' in width on the southerly side of said highway opposite Highawy Engineer's center line Station 109+33 etc."

(d.) Ordinance NO. 107482 Slope Easement City of Portland to State Highway Dept. 2/27/58.

Dear Sirs:

Both myself and the City of Portland (reference a) need an access to the Highland interchange from our properies on the South side of the interchange. As it now stands the city is landlocked and I can not use my property without this access. We would appericate your assistance in this matter. Please send me the necessary forms and proceedures to follow to get this easement.

J.F. Macdonald
4/24/70

J.F. Macdonald
1316 N.E. 113th
Portland, Oregon
97220

Attach,ents: Ref. a &b

RECEIVED
APR 30 1970
OFFICE OF
STATE HIGHWAY ENGINEER

☐ DE ☐ ADE ☐ ADE ☐ OE

☐ TE ☐ UE ☐ DES

ROLAND B. HALL
ASSISTANT SUPERINTENDENT
EDWARD L. ERICKSON
ADMINISTRATIVE ASSISTANT
VINCENT J. CROWLEY
CHIEF CLERK
BUCHAN E. MCKENDRICK
DIRECTOR OF GOLF

ALLYN R. STALEY
DIRECTOR OF OPERATIONS
DOROTHEA M. LENSCH
DIRECTOR OF RECREATION
JACK L. MARKS
DIRECTOR OF THE ZOO
VERNON D. TOEDTEMEIER
STADIUM MANAGER
LOYAL C. LANG
SUPERVISING ARCHITECT

CITY OF PORTLAND, OREGON
BUREAU OF PARKS AND PUBLIC RECREATION
CITY HALL ANNEX
1107 S. W. FOURTH AVE.

FRANCIS J. IVANCIE, COMMISSIONER
HARRY B. BUCKLEY, SUPERINTENDENT

November 19, 1969

Mr. J. F. Macdonald
Rural Route #1 Box 567B
West Lynn, Oregon 97068

Dear Mr. Macdonald:

Reference is made to your letter of July 22, 1969, and attached map suggesting an access road across State Highway right-of-way to serve your property on the south side of Canyon Road and immediately west of that 25 acre portion of Hoyt Park lying between Canyon Road and Humphrey Boulevard.

It would appear that your negotiation for an easement would be entirely with the State Highway Department because no crossing of City property is involved.

I will say however that an equipment access for intermittent maintenance and fire protection of park property south of Canyon Road would be a desirable feature. The point of this access is not critical and would probably be dependent upon the wishes of the State Highway Department.

The Park Bureau is in no position to make a financial committment to assist in the construction of your proposed access road but would support your request to the State Highway Department for the reason stated above.

Very truly yours,

Harry B. Buckley
Superintendent of Parks

HBB:k

CC: Ivancie
Hall
Erickson

TO: H.B. Buckely July 22,1969
Supt of Bureau
of Parks and Recreation
1107 S.W. 4th
Portland, Oregon

cc; Edward L.Erickson
Carl Joblin

Subject: Green Belt easement and highway access to City of Portland (Washington Park) and J.F.Macdonald's property lying South of Canyon Road (Sunset Highway).

Reference: Ordinace No. 107070 dated 12/6/57.

Dear Sir:

I have meet with Mr. Erickson of your office regarding 12.23 acres we own in the SW$\frac{1}{4}$ of Section 5, Twp. 1 S., Range 1 E. City of Portland, which lies West of Washington Park and South of Cnayon Road. Mr. Erickson has expressed the park departments desire to maintain a green belt along Canyon Road leading into the City. I have expressed our desire to obtain permission to use the 30' access the City retained under Ordinance No. 107070 - running from the Highland Interchange to their property South of Canyon Road.

Mr. Erickson also stated that the Park Department is developing a comprehensive plan of trails leading from Montgomery District to Forest Park through Washington Park, which would require the developement of their access from Highland Interchange to their property lying South of Canyon Road for the purposes of a limited service road for trail maintenance.

We have obtained a scale model of our property and a portion of your property for the purpose of studying the feasibility of developement of such a road. Our present studies indicate an access road with a 15% slope**can be constructed from the Highland Interchange - running Southwesterly through our property, then East to the Washington Park property. As you know the terrain does not lend itself to any direct approach.

** grade

We would be interested in developing this access with the City on the following bases:

1. Deeding to the City a permanent green belt easement over the North 200 feet of our property bordering Canyon Road in exchange for rights of access on the easement owned by the City to Highland Interchange.

2. Sharing the cost of construction of the access road, subject to approval of bids.

3. Giving the City a permanent easement over any portion of our property required for the access road.

I would like to discuss further the engineering and feasibility of this proposal. Please keep me informed of your action on this matter.

Yours Sincerly

ATTACHMENT: AREA MAP

J.F. Macdonald

RECEIVED
MAY 14 1970

26-1181
7186

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
1632 S.W. MORRISON STREET • PORTLAND, OREGON 97205
TELEPHONE (503) 223-6147

INVOICE NUMBER
213

TO
Oregon State Highway Department
~~City of Portland~~
State Highway Building
Salem, Oregon

Attention: Mr. F. B. Klaboe
Asst. State Hwy Engineer

INVOICE DATE	CONTRACT OR PURCHASE ORDER	AUTHORIZED FEE	JOB NUMBER
4/30/70			0-406

PROFESSIONAL SERVICES

ENGINEERING SERVICES	32 hours	104.10 x 2.5	260.25
REIMBURSABLE EXPENSES Breakdown on attached sheet			8.94
TOTALS			269.19

NOTE
F. B. KLAB

RECEIVED
MAY 13 1970
OFFICE OF
STATE HIGHWAY ENGINEER

THIS PERIOD: FROM 3/1/70 TO 3/31/70

☒ PROGRESS INVOICE ☐ FINAL INVOICE

JOB REFERENCE:
Slope Stability Investigation, Portland Zoological Gardens, Portland, Ore.

Ref'd to Skoog
5-14-70

TERMS: NET 30 DAYS. PLEASE PAY FROM THIS INVOICE. STATEMENTS SENT ONLY UPON REQUEST.

SHANNON & WILSON, INC.

Invoice 213
4/30/70

LABOR BREAKDOWN

C. Mackenzie	14 hours	@ 2.654 =	37.15
M. Mohr II	16 "	2.74 =	43.84
R. J. Deacon	2 "	7.702 =	15.40
	32 "		96.39
		+8%	7.71
			104.10

REIMBURSABLE EXPENSE

Reproduction	6.90
Telephone	2.04
	8.94

[illegible] MAY 13 1970

FOR FILE

SHANNON & WILSON, INC.

SOIL MECHANICS AND FOUNDATION ENGINEERS
1632 S.W. MORRISON STREET • PORTLAND, OREGON 97205
TELEPHONE (503) 223-6147

INVOICE NUMBER
212

26-1181

TO

7186

Oregon State Highway Dept.
City of Portland
State Highway Bldg.
Salem, Oregon 97301

Attn: Mr. F. B. Klaboe, Asst.State Highway Engineer

INVOICE DATE	CONTRACT OR PURCHASE ORDER	AUTHORIZED FEE	JOB NUMBER
4/30/70			0-406A

PROFESSIONAL SERVICES

ENGINEERING SERVICES		
153 hrs.	928.17 x 2.5	$2320.43
REIMBURSABLE EXPENSES		64.11
Breakdown on attached sheet		
TOTALS		$2384.54

NOTED
F. B. KLABOE

RECEIVED
MAY 13 1970
OFFICE OF
STATE HIGHWAY ENGINEER

ref'd to
Skoog
5-13-70

THIS PERIOD: FROM 3/1/70 TO 3/31/70

☒ PROGRESS INVOICE ☐ FINAL INVOICE

JOB REFERENCE:

Slope Stability Investigation, OMRI, Portland, Oregon

TERMS: NET 30 DAYS. PLEASE PAY FROM THIS INVOICE. STATEMENTS SENT ONLY UPON REQUEST.

SHANNON & WILSON, INC.

INVOICE #212
1/30/70

LABOR BREAKDOWN

P. Kelly	8½	hours @	6.087	=	51.74
C. MacKenzie	5½	"	2.654	=	14.60
Atef Azzam	14	"	5.288	=	74.04
Holly Ellis	2	"	3.50	=	7.00
M. Brown	7	"	3.50	=	24.50
R. Ballweber	11½	"	3.548	=	40.80
G. Gehrke	5	"	2.769	=	13.86
M. MohrII	28	"	2.74	=	76.72
L.R. Squier	57½	"	8.942	=	514.16
S. Hunter	14	"	3.00	=	42.00
	169	hours			859.42
			+8%		68.75
					928.17

REIBURSABLE EXPENSE:

Reproduction	24.22
Telephone	8.14
Carton Service	22.50
Freight	9.25
	64.11

Form E-372 (Rev. 10-66)

26-11X1
[illegible]

OREGON STATE HIGHWAY DEPARTMENT

Expected Overrun of Project Authorization

Project Highlands Interchange-Vista Ridge Tunnel   Date April 30, 1970

Highway Sunset   Contract No. 7166

County Multnomah   Kind of Work Grading, Paving, Signing, Illumination   Contractor Peter Kiewit Sons' Co.

	Authorized	Estimated
Contract Amount	$2,359,339.00	$2,261,042
Anticipated Items	110,300.00	101,300
Contingency (4½%)	111,133.75	654,659
Engineering	197,571.12	284,963
Credits		
PROJECT COST	$2,778,343.87	$3,302,564
NET INCREASE $		524,220

MAJOR OVERRUNS AND UNDERRUNS (Describe Briefly)

(Indicate whether contract (C), anticipated (A), or unanticipated (U). (List all unanticipated items)	Expected Amount	Net Change
(C) Embankment in Place	$286,800.00	- $ 92,400.00
(C) Class "A" Concrete in Walls	93,280.00	+ 22,880.00
(C) Reinforcement in Walls	30,765	+ 10,285
(C) Pipe Items (Bid Items 44, 45 & 46)	108,210	- 9,290
(U) 18 Extra Work Orders, 10 Price Agreements & 5 State Force Orders	85,791)	
(U) Available for further contingencies	69,611)	654,659
(U) P.A. #11 for OMSI Zoo Buttress	499,257))	
+ 5% Engineering	24,963)	524,220 *

APPROVED BY
STATE HIGHWAY COMMISSION
DATE 4-21-70

Principal reasons for overruns (Continue on reverse side): Price Agreement No. 11 for construction of a rock buttress wall in front of slide area near the Portland Zoo. * Approved by the State Highway Commission April 21, 1970

INSTRUCTIONS: A report on this form is to be submitted if and when it becomes evident that the project cost will exceed the original project authorization by more than five per cent and again if and when it becomes evident that the project cost will exceed by more than five per cent a subsequently approved increased project authorization. Submit five copies to Salem. After having been noted by the Deputy or Assistant State Highway Engineer, one copy will be sent to the Division Engineer and one copy to the Resident Engineer.

Submitted by ______________ Resident Engineer

Noted by ______________ Construction or Bridge Engineer

Confirmed by ______________ Division Engineer

Noted by ______________ Assistant ~~Deputy~~ or State Highway Engineer

SP*22760-734

RECEIVED
MAY 4 - 1970
FORM E-30 (12-67)

26-11-1
7186

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
April 30, 1970

SUBJECT: Highlands Interchange-Vista Ridge Tunnel Section
Sunset Highway
Contract No. 7186

To:

Mr. F. B. Klaboe
Assistant State Highway Engineer
BUILDING

Herewith for your formal approval is the request for overrun authorization to properly account for the OMSI Zoo Buttress Price Agreement which has been added to this project.

As we interpret the Commission action taken at the last meeting, an additional $524,220 was authorized. This project overrun report is therefore prepared on that controlling basis and with your approval will be distributed to the proper offices.

F. D. Morgan
Construction Engineer

By John A. Bond
John A. Bond
Construction Administration Engineer

JAB:fw
Attach.
cc V. L. Gallagher

Ret'd to
Bond w/forms
5-1-70

RECEIVED
APR 30 1970
OFFICE OF
STATE HIGHWAY ENGINEER

NOTED
F. B. KLABOE

RECEIVED
MAY 19 1970
FOR FILING
7188

OREGON STATE
HIGHWAY DEPARTMENT

DIVISION 1

P. O. BOX 02157 • PORTLAND, OREGON • 97202 • Phone 654-7741

Cooper
Info

April 29, 1970

NOTED
F. B. KLABOE

Mr. J. F. McDonald
1316 N.E. 113th Avenue
Portland, Oregon 97220

RE: Request for Access
South Side Canyon Road
Zoo Interchange

Dear Mr. McDonald:

NOTED
FORREST COOPER

I have reviewed our previous right of way acquisitions along the southerly side of the Sunset Highway in the vicinity of the Highlands Interchange which serves the zoo. I find that we did, in fact, purchase all access rights because the terrain is such in this area as to make access road construction undesirable, and that traffic movements are such as to make an access disruptive to the safe and expeditious flow of traffic. This controlled access met with the approval of the City of Portland, and it fit in with their plans to maintain a "green belt".

Events that have occurred since these purchases, namely, the importance of green belts to the environmental aspects of the highways in the area and the ever increasing traffic volumes support the initial decision. Consequently, we would not be able to grant an access at this location.

Yours truly,

L. W. Rulien
Division Engineer

LWR:fb

☐ DE ☐ ADE ☐ ADE ☒ OE
MAY 1 1970
☐ TE ☐ UE ☐ DES

RECEIVED
MAY 14 1970
OFFICE OF
STATE HIGHWAY ENGINEER

Dear GOD (L.W. Rulien)

The attitude you expressed for the highway Department is typical of a policy of "WHAT'S YOUR'S IS MINE AND WHAT'S MINE IS MINE." I requested the procedures and forms required to apply for the access. Since you have taken it upon yourself to talk for the duly appointed Highway Commission, I feel that my only recourse will be legal action

Thank You

J. F. McDonald 5-10-7

Send cc Klaboe
for your info LRulien

26-1181

FORM E-1 (REV. 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: Highlands Interchange - Vista Ridge Tunnel

WEEK ENDING: April 25, 1970

SECTION PREFIX: 26-1181

HIGHWAY: Sunset

COUNTY: Multnomah

NAME OF JOB: Highlands Interchange-Vista Ridge Tunnel

KIND OF WORK: Grading, Paving, Signing & Illumination

CONTRACTOR: Peter Kiewit Sons' Co.

CONTRACT NUMBER: 7186

FEDERAL AID PROJECT NUMBER: State

DATE OF CONTRACT: October 14, 1968

DATE WORK STARTED: November 4, 1968

ESTIMATED COMPLETION DATE: September 30, 1970

AVERAGE FORCE ON PROJECT FOR THE WEEK: MEN: 7 SUPERVISION: 2

SPECIFIED WORK DAYS:

WORK DAYS USED:

SPECIFIED CALENDAR DAYS: 625

CALENDAR DAYS USED: 559

SPECIFIED COMPLETION DATE: Stage IV Sept. 30, 1969
Final June 30, 1970

PERCENT OF TIME ELAPSED: 89

PROJECT AUTHORIZATION: $ 2,778,344

PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 68

EXCLUSIVE OF ENGINEERING: $ 2,580,773

ENGINEERING AUTHORIZATION: $ 197,571

PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 70

ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 2,518,344

ENGINEERING COST TO DATE: $ 216,500

This week: $ 2,000 *

DATE PROJECT WAS COMPLETED: Stage IV - Dec. 24, 1969

ESTIMATED PERCENT: OVERRUN UNDERRUN 0 %

PERCENT OF AUTHORIZATION: 109.5 %

* This week's payroll for crew 080-09 is $1,702 (includes 26% loading).

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD	Sign.& Illum.	
96	80	78	73.5	50		43	

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT	1.38	1.38		1.38	1.38
MILES PARTIALLY COMPLETED	1.38	1.38		1.38	1.38
MILES COMPLETED	0	0		0	0
TOTAL ESTIMATED QUANTITIES (CONTRACT)	332,306 CY	63,500 ton		26,200 ton	22,000 ton
TOTAL QUANTITIES CORRECTED TO DATE	255,000 CY	"		"	"
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE	198,200 CY	46,700 ton		15,730 ton	8,480 ton
AVERAGE DAILY QUANTITIES	0	0		0	0
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME	861 CY	255 ton		159 ton	205 ton
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK: 1 Compressor, 1 Flatbed truck, 1 Flatbed trailer, 1 Pickup.

ESTIMATED PERCENT COMPLETE (STRUCTURES)

wall ~~BRIDGE~~ NO.	1	2	3	4	9856	9856A	9912	
PERCENT	deleted	100	100	deleted	100	100	100	

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY				
MONDAY	Mild, Cldy, Shwrs			
TUESDAY	Mild, Overcast			
WEDNESDAY	Mild, Cldy, Shwrs			RECEIVED 2 1970
THURSDAY	" " "			
FRIDAY	" " "			
SATURDAY				BEN GIFFORD

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY Apr. 19	No activity.
MONDAY Apr. 20	Guard rail crew installing temporary rail for Stage V, Sta. 91 to 104. Installed temporary curb, Sta. 75 to 75+50 and 91 to 95. Installed type "F" curb, Sta. 48+45 to 51+15 and 75+94 to 79+50.
TUESDAY Apr. 21	Guard rail crew tightening splice bolts in rail throughout Stage V. Installed type "F" curb, Sta. 79+50 to 86+50.
WEDNESDAY Apr. 22	Guard rail crew tightening splice bolts in rail throughout Stage V. Installed type "F" curb, Sta. 86+50 to 91. This completes type "F" curb that can installed at this time.
THURSDAY Apr. 23	Guard rail crew tightining splice bolts in rail throughout Stage V.
FRIDAY Apr. 24	No work on project today.
SATURDAY Apr. 25	No activity anticipated.

REMARKS

Guard rail crew working on rail throughout Stage V. Unable to complete Stage V guard rail this week due to shortage of rail on project.
Installed temp. extruded curb on Stage V, Sta. 75 to 75+50 and 91 to 95.
Installed type "F" curb, Sta. 48+45 to 51+15 and 75+94 to 91. This completes type "F" curb that can be installed at this time.

ANTICIPATED FOR NEXT WEEK: Complete Stage V guard rail installation. Stripe Stage V. Switch construction signing to Stage V. Expect to switch westbound traffic onto Stage V alignment on tuesday.
Begin Stage VI drainage work.
Begin to relocate temporary illumination in ZOO-OMSI Buttress construction area.

SIGNED William C. Anthony
for Ernest L. Scrivner, Res. Engr.

LOCATION Portland

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

WILLIAM L. SHAI
STANLEY D. WILSON, P. E.
EARL A. SIBLEY, P. E.
WALTER L. WRIGHT, P. E.
RUDY J. DIETRICH, P. E.

SHANNON & WILSON, II
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE - PORTLAND - BURLINGAME
1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 • (503) 223-6147

April 24, 1970

NOTE
F. B. KLAB

Oregon State Highway Department
City of Portland
State Highway Building
Salem, Oregon 97310

Attention: Mr. F. B. Klaboe
Asst. State Hwy Engineer

Re: Slope Stability Investigation
Portland Zoological Gardens
Portland, Oregon

Gentlemen:

In the process of accomplishing the scope of work outlined in our proposals dated February 14, and October 29, 1969, the following personnel have had a pay rate change.

Title	Name	Date of Change	old rate	Hourly Rate
Principal Engineer	L.R. Squier	2/2/70	8.654	$8.942
Engineers	K. F. Fujitani	2/2/70	5.769	7.442
	R. L. Gamer			5.7693
	W. C. Hill			6.00
	P. B. Kelly	2/2/70	5.885	6.087
	D. Schwoerer			4.327*
	T. Kinney	2/2/70		6.3942
Principal Geologist	R. J. Deacon	2/2/70	7.452	7.702
Laboratory Technician	R. R. Ballweber	2/2/70	3.173	3.548*
	M. Mohr II		2.74	2.74*
Draftsmen	S. E. Hunter		3.00	3.00*
	C. MacKenzie	2/2/70	2.452	2.654*
Clerical	G. L. Gehrke	2/2/70	2.596	2.769*

*Note: These individuals are paid overtime at the rate of 1.5 the basic hourly rate and double time for holiday work.

Rtd to
Shortg
5-11-70

orig. to [illegible]
11-27-70

Approval 5-1-70
Asst. State Hwy. Engr.

ENTERED TO
V. E. SHOGG, Controller

We trust this information will be sufficient for your accounting needs, but if you have any questions please contact us at your convenience.

Very truly yours,

SHANNON & WILSON, INC.

WALTER L. WRIGHT

WLW:fw

RECEIVED
APR 27 1970
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
JUN 5 - 1970

FOR FILING

26-1181
7186

4G
4-21-70

April 23, 1970

Mr. Ray Smith, Auditor
City of Portland
City Hall
Portland, Oregon

MISC. CONTRACTS and
AGREEMENTS No. 7737

Dear Mr. Smith:

Attached for your records are two fully executed copies of an agreement providing for construction of a rock buttress wall for the control of a slide between Canyon Road and the Portland Zoo.

We have retained a fully executed copy of this agreement for the Commission's files.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fm
Att.

cc H. S. Cox
(conf. agreement att.)

SANDEBERG, RECKEN & LUETJEN
ATTORNEYS AT LAW
PUBLIC SERVICE BUILDING
PORTLAND, OREGON 97204

DAVID SANDEBERG
ROBERT L. RECKEN
CALVIN H. LUETJEN

TELEPHONE
222-9467

April 22, 1970

RECEIVED
APR 23 1970
LEGAL [illegible]

Mr. Frank C. McKinney
Assistant Attorney General
and Assistant Counsel
Oregon State Highway Division
Highway Building
Salem, Oregon 97310

Re: West Slope Water District Claim

Dear Frank:

I am returning in duplicate the Release Forms you submitted with your letter of April 13, 1970. They have been executed on behalf of West Slope Water District.

As we discussed over the telephone, West Slope Water District is releasing all claims in connection with the construction work of the Highway Department on the lower part of Canyon Road. This includes not only the relocation costs for our line in Old Jefferson Road, but also any claim for the costs of the District in installing the new supply line which connected to the City of Portland reservoirs.

I assume that in due course we will receive your voucher or check for $3,167.19.

Very truly yours,

Bob

Robert L. Recken

RLR/slb

Enclosures

cc: West Slope Water District

RELEASE

KNOW ALL MEN BY THESE PRESENTS that the West Slope Water District, a quasi-municipal corporation of the State of Oregon, in consideration of the payment to it of the sum of Three Thousand One Hundred Sixty-Seven and 19/100 Dollars ($3,167.19) and other valuable consideration by the State Highway Commission, receipt of which is hereby acknowledged, does hereby release and discharge the State of Oregon, by and through its State Highway Commission, from any and all claims, demands, damages, actions, causes of action, or suits at law or in equity, of whatsoever kind or nature arising out of or in any way related to the relocation of or abandonment of the West Slope Water District utility facilities including, but not limited to the former 12-inch water main owned by West Slope Water District located in Old Jefferson Road, prior to the construction of the Vista Ridge Tunnels and the reconstruction and improvement of the Sunset Highway by the State Highway Commission. By this release West Slope Water District acknowledges that it has abandoned all its right, title and interest in said 12-inch water main located in Old Jefferson Road and affected in any way by the State Highway Commission's construction.

EXECUTED this 16th day of April, 1970, at Portland, Oregon.

Witness

WEST SLOPE WATER DISTRICT

By
President

By
Secretary

RECEIVED
APR 21 1970

FOR FILING

72-1181
7786

April 20, 1970

Oregon State Highway Commission

Gentlemen:

There will be on the agenda for your consideration at the April 21 meeting a proposed agreement between the City of Portland and the State Highway Division providing for the construction of a rock buttress wall which, according to consulting engineers Shannon & Wilson, will stabilize the existing slide between Canyon Road and the Portland Zoo. The estimated cost of this work is $525,000.

The agreement provides that the State let all contracts and pay the total actual cost of the project. It further provides that all existing agreements between the State and the City in this area remain in full force and that the City will hold the State harmless for any damages arising out of this project now or in the future.

I recommend that the agreement have your approval and that the Secretary be authorized to sign it for and on your behalf.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc Floyd Query
R. L. Porter
F. B. Klaboe
Victor D. Wolfe
L. I. Lindas
V. E. Skoog
F. D. Morgan
H. S. Cox
A. E. Johnson

FBK:srb fn

RECEIVED
APR 17 1970

FOR FILING

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

April 16, 1970

Mr. Robert L. Nordlander
Director of Public Works
Multnomah County
2115 S. E. Morrison Street
Portland, Oregon 97214

Re: Special Assessments
Club Estates East Service District

Attention: Richard T. Howard
Assistant Engineer

Dear Sir:

In reviewing the above file, I note we have not responded to your letter of February 3, 1970. May I apologize for our delay in so doing.

I have reviewed Mr. Shannon's opinion, wherein he concludes that those public bodies whose properties are directly benefited and assessed under provisions of ORS Chapt. 451 are legally obligated to pay said assessments. With this conclusion we find no fault.

We do find fault, however, with any conclusion that our highway facility is directly benefited by the service facilities of the above service district. Accordingly we must respectfully decline to pay the assessments.

Very truly yours,

L. I. LINDAS
Assistant Attorney General
and Counsel

LIL:ks

cc: Oliver J. Domreis
F. B. Klaboe

RECEIVED
APR 17
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
APR 17 1970
FOR FILING

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

[illegible]
1146

April 16, 1970

Mr. Robert L. Nordlander
Director of Public Works
Multnomah County
2115 S. E. Morrison Street
Portland, Oregon 97214

Re: Special Assessments
Club Estates East Service District

Attention: Richard T. Howard
Assistant Engineer

Dear Sir:

In reviewing the above file, I note we have not responded to your letter of February 3, 1970. May I apologize for our delay in so doing.

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We do find fault, however, with any conclusion that our highway facility is directly benefited by the service facilities of the above service district. Accordingly we must respectfully decline to pay the assessments.

Very truly yours,

L. I. LINDAS
Assistant Attorney General
and Counsel

LIL:ks

cc: Oliver J. Domreis
F. B. Klaboe

RECEIVED
[illegible]
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
APR 15 1970
FOR FILING

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

April 13, 1970

Mr.Robert L. Recken
Attorney at Law
901 Public Service Building
Portland, Oregon 97204

Re: West Slope Water District Claim

Dear Bob:

Please find enclosed herewith an original and two copies of a proposed Release with respect to the above claim. I assume by this time you have received a copy of Mr. E. S. Hunter's letter directed to Mr. B. P. Huntley with respect to releasing the three 12" pipe elbows at the Sylvan Maintenance Station to your representatives.

If you will please have your people sign and return the Release, we will immediately process a voucher for the payment of the claim.

In addition to the money, I used the term "other valuable consideration," since the Highway Division is returning the three pipe elbows. I also refer to "causes of action, or suits at law * * * of whatsoever kind or nature arising out of or in any way related to the relocation of or abandonment of the West Slope Water District utility facilities". This was included to resolve the meetings we initially had discussing the entire relocation of West Slope, and their claim for the cost of their entire new installation and system.

It was our thought that perhaps this should be mentioned so that if, at some future date, members or Directors of West Slope, in going back over the files, find references to our various meetings wherein the suit by the District against the State for some $90,000 was discussed. I assume, however, that this claim ended with the Supreme Court's decision in State vs. Clackamas Water District. Be that as it may, however, we feel the Release should be drawn sufficiently broad to cover the relocation that you made, in addition to the abandonment of the pipe in Old Jefferson Road.

Very truly yours,

RECEIVED
APR [illegible]
OFFICE OF
STATE HIGHWAY ENGINEER

FRANK C. McKINNEY
Assistant Attorney General
and Assistant Counsel

FCMcK:ks
enclosures
cc: F. B. Klaboe
E. S. Hunter
Jack Sollis
L. I. Lindas

RECEIVED
APR 10 1970
FOR FILING
FORM E-30 (12-67)

26-1181

7-16

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
April 9, 1970

SUBJECT: West Slope Water District

To: Mr. E. S. Hunter
Maintenance Engineer

Building

On March 31, 1970, I wrote to you with respect to three 12" elbows which are presently in storage at our Sylvan Maintenance Yard. I requested that you inform the DMS not to release or dispose of the elbows until we were advised whether West Slope Water District desired to have them as part of their claim settlement.

Please find attached hereto copy of a letter from Mr. Robert L. Recken, dated April 6, 1970, in which he informs me that West Slope Water District does desire to have the elbows.

I would appreciate it if you would forward instructions to the DMS at Sylvan to release the elbows to West Slope. If you will send a copy of your letter to Mr. Recken and to Mr. V. M. Blackwell, Manager of West Slope Water District, along with a copy to me for my file, I will know that Mr. Recken has been advised that West Slope District's agents are authorized to pick up the elbows mentioned in my letter to you of March 31, 1970.

FRANK C. McKINNEY
Assistant Attorney General
and Assistant Counsel

FCMcK:ks
attachment

cc: R. L. Porter
Tom Edwards
F. B. Klaboe
Ted Litchfield
Jack Sollis

ROUTED
F.B. KLABOE

VED
1970
E OF
AY ENGIN

RECEIVED
APR 9 - 1970

FORM E-30 (REV. 10-69)

26-1141
1156

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon
April 2, 1970

SUBJECT: OMSI-Zoo Buttress
Highlands Interchange-Vista
Ridge Tunnel Sec.
Sunset Freeway

To: Memo to the Files

A meeting was held in the Metropolitan office at 10 a.m. March 31, 1970. The meeting was held to discuss procedures, materials and specifications for the slide correction work to be performed by Peter Kiewit Sons' Co.

Representing the contractor were Norman McKibben, Tom Callanan; from Oregon State Highway Division, A. E. Johnson, Gil Decker, John Day, E. L. Scrivner and J. H. Versteeg; and from Shannon & Wilson, Mr. Walter Wright.

It was agreed that the slide correction work would be performed under the specifications set forth in Shannon & Wilson's report. All minor items of work were covered in the specifications for this contract.

Additional special provisions would be required to cover the general excavation. Mr. Wright stated, "It would be necessary to rip the rock in bottom of the excavation area with a D-8 cat using a single tooth ripper." He felt this was necessary to reach sound rock upon which to place the buttress material.

Mr. McKibben wanted to know when the general excavation work could start. Mr. Wright agreed it could start now if the weather was good and the ground water remained at its present level. Measurement of the ground water level will control the progress of the work. Mr. Callanan asked "if the slope could be benched down 10' to 15' deep ahead of the main excavation." Mr. Wright and Mr. Decker agreed that this would be satisfactory but all erosion, slides, etc., would be the responsibility of the contractor.

Mr. McKibben made these two additional comments—all slides, overbreak, etc., would be the State's responsibility; second, if it were necessary to backfill the excavated area for any cause he would expect to be paid for the removal of this material.

Quarry Rock

The material at Kruger's Quarry will not be accepted for suitability until after the material is shot and inspected at the site. All the buttress rock will be scalped on a 3" screen. McKibben stated they would select the material carefully before screening to eliminate undesirable material. Mr. Wright agreed that 4½-ton vibratory roller such as a Bros V-P #9 would supply adequate compaction of the buttress material. This is to be 14" size quarry rock as per the specification with a limited amount of oversize.

Fine Filter

Mr. Wright stated that the fine filter material specified in the report was the only satisfactory material for the intended purpose. Minor changes in this material could be permitted if no other was available.

Coarse Filter

This is specified as 1½"-0 well-graded material with a maximum of 2% passing the two-hundred screen. The problems of obtaining such a material were discussed at some length, but no changes in the material were agreed upon.

Rock Embankment

This is to be pit-run quarry rock. It was agreed no filter blanket would be required between this and the buttress rock.

Mr. McKibben requested an additional 38¢ a cubic yard on the general excavation. This is to cover the cost of ripping the bottom of the excavation area as requested by Mr. Wright. Mr. Scrivner was asked to review this additional cost.

There are no plans to place topsoil at this time. It was agreed that this would be an extra work item later on if our plans changed.

Mr. McKibben agreed that this work could be completed in conjunction with their present contract. Therefore there would not be claim for an additional time extension based solely on the extra work of constructing the buttress.

Mr. McKibben planned to review the price he had originally submitted and advise Mr. Scrivner of any changes.

Mr. Wright agreed to review the price agreement and special provisions covering the slide correction work. He will then submit a letter of approval to this office.

A. E. Johnson
Metropolitan Engineer
by

J. H. Versteeg
Assistant Metropolitan Engineer

RECEIVED
APR 3 1970
OFFICE OF
STATE HIGHWAY ENGINEER

JHV:lh
cc: Gil Decker
John Day
E. L. Scrivner
F. B. Klaboe

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APR 2 - 1970
FOR FILING

26-1181

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
March 31, 1970

SUBJECT: West Slope Water District

To: Mr. Ed Hunter
Maintenance Engineer

Building

During the last meeting of the Commission they approved a settlement with West Slope Water District in the sum of $3,167.19, together with the right of the District to elect whether they wish to pick up two 12-3/8" O.D. - 45° elbows and one 12-3/8" O.D. - 22-1/2° elbow presently in storage at the Sylvan maintenance yard. These elbows were purchased for West Slope and then never used when the District decided not to reconnect their Jefferson Street line. The settlement takes into consideration the value of these elbows.

Would you please notify the District Maintenance Superintendent at Sylvan that these pipe elbows are not to be released or disposed of until we have been advised by West Slope Water District whether they wish to pick them up or leave them with the Highway Division?

FRANK C. McKINNEY
Assistant Attorney General
and Assistant Counsel

FCMcK:ks

cc: R. L. Porter
Tom Edwards
F. B. Klaboe
Ted Litchfield
Jack Sollis
L. I. Lindas

RECEIVED

RECEIVED
APR 2 - 1970
FOR FILING

OREGON STATE
HIGHWAY DIVISION
HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

26-1181

7-11

March 31, 1970

Mr. Robert Racken
Attorney at Law
901 Public Service Building
Portland, Oregon 97204

TO ~~Hunter~~

Re: West Slope Water District Claim

Dear Bob:

During its last meeting on March 17, 1970, the State Highway Commission considered the proposed settlement between West Slope Water District and the State Highway Commission and approved the recommended settlement in the sum of $3,167.19, together with the return to the District, if they so elect, of two 12-3/8" O.D.-45° elbows and one 12-3/8" O.D. - 22-1/2° elbow presently in storage at the Sylvan maintenance yard.

We are preparing the release and are likewise advising our Maintenance Division not to dispose of the pipe elbows until such time as the District decides whether it wishes to pick them up or leave them with the Highway Division.

Could you please advise us at your earliest convenience as to the District's decision on the pipe elbows?

Very truly yours,

L. I. LINDAS
Assistant Attorney General
and Counsel

By

FRANK C. McKINNEY
Assistant Attorney General
and Assistant Counsel

FCMcK:ks
cc: R. L. Porter
Tom Edwards
F. B. Klaboe
Ted Litchfield
Jack Sollis
L. I. Lindas

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[illegible]
STATE HIGHWAY [illegible]

RECEIVED
APR 16 1970
FOR FILING

Bu
26-1141
4-12 7186

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon
March 31, 1970

SUBJECT: Slope Stability Investigation
OMSI
Shannon & Wilson, Inc.

To: Mr. F. B. Klaboe
Assistant State Highway Engineer
Salem

Attached are copies of Invoice No. 184 from Shannon & Wilson, Inc., for OMSI slope stability investigation for the period February 1 to February 28, 1970. The following is noted:

Our agreement with Shannon & Wilson for this work provides that the consultant shall bill the State for work in accordance with Section IV of the March 11, 1969, agreement. This latter agreement contains a schedule showing rates of pay, payroll additives, payroll multiplier and provision is made that work will be paid using the schedule. The same would apply to the agreement for the OMSI slope investigation. It is to be noted that Shannon & Wilson have deviated from the schedule of rates of pay and have indicated a substantial increase as of February 2, 1970. Invoice No. 184 contains charges by Soil Sampling Service, Inc., and a copy of their invoice is attached. It also contains charges by Ross Island Sand & Gravel Company for which no invoices were attached.

This invoice is forwarded to you for further handling.

A E Johnson
A. E. Johnson
Metropolitan Engineer

AEJ:lh
Enc

4-6-70
orig to Frank Griffin
w/note - pl discuss

RECEIVED
APR 1 1970
OFFICE OF
STATE HIGHWAY ENGINEER

NOTED
F. B. KLABOE

[illegible]

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
1632 S.W. MORRISON STREET • PORTLAND, OREGON 97205
TELEPHONE (503) 223-6147

INVOICE NUMBER
184

TO
Oregon State Highway Department
City of Portland
State Highway Building
Salem, Oregon

INVOICE DATE	CONTRACT OR PURCHASE ORDER	AUTHORIZED FEE	JOB NUMBER
3/18/70			0-406-A

PROFESSIONAL SERVICES

ENGINEERING SERVICES	54 hours 315.80 x 2.5	$789.50
REIMBURSABLE EXPENSES		2444.82
Breakdown of above charges on next sheet		
TOTALS		$3234.32

THIS PERIOD: FROM Feb 1 TO Feb 28, 1970

☒ PROGRESS INVOICE ☐ FINAL INVOICE

JOB REFERENCE:
Slope stability investigation, OMSI, Portland, Oregon

TERMS: NET 30 DAYS. PLEASE PAY FROM THIS INVOICE. STATEMENTS SENT ONLY UPON REQUEST.

Oregon State Highway Dept.
Page 2 of invoice #184
March 18, 1970

BREAKDOWN OF LABOR

Principal Engineer	W. L. Wright	4 hrs	@ 11.538	= 46.15	
	L. R. Squier	2 "	@ 8.942	= 17.88	(new rate) as of 2/2/70
Engineer & Geologist	D. Kellum	40 "	@ 5.00	= 200.00	
Laboratory Technician	R. Ballweber	8 hrs	@ 3.548	= 28.38	
				292.41	
			+8%	23.39	
				315.80	

BREAKDOWN OF REIBURSABLE EXPENSES

Ross Island Sand & Gravel		26.75
Soil Sampling Service Inc.		2302.93
(copy attached)	+5%	115.14
Telephone		-------
		$2444.82

SOIL SAMPLING SERVICE, INC.
5815 North Meridian
PUYALLUP, WASHINGTON 98371

SOLD TO: Shannon & Wilson, Inc.
[illegible] S.W. Morrison Street
Portland, Oregon

Invoice Number: 0-65-[illegible]

Invoice Date: 3-2-70

Terms: Net [illegible] days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
	For services performed under your job number 0-406 at CMBI, Portland, Oregon ending 2-27-70.		
Lump Sum	Mobilization	35.00/L.S	35.00
✓ 277.5 L.F.	Drilling under 100 blows/L.F. 3 3/8" auger	4.50/L.F.	1,248.75
[illegible].0 L.F.	Drilling over 100 blows/L.F. 3 3/8" auger	5.50/L.F.	[illegible]
✓ 1.1 L.F.	Rotary Drilling	8.50/L.F.	[illegible]
[illegible].4 L.F.	Bx Coring	11.50/L.F.	39.[illegible]
[illegible]	Sampling 0' - 25'	4.25/att.	[illegible]
✓ 12 attempts	25' - 50'	5.00/att.	60.00
✓ 10 attempts	50' - 75'	5.75/att.	57.50
✓ 8 attempts	75' - 100'	6.80/att.	[illegible]
✓ 1 attempt	100' - 125'	7.25/att.	[illegible]
✓ 6 each	3" Shelby Tubes	6.25/each	[illegible]
[illegible] each	Norton Stone Tips	5.00/ea.	[illegible]
[illegible].0 L.F.	½" PVC Riser Pipe	.209/L.F.	[illegible]
[illegible]	Monument Cases	32.50/ea.	[illegible]
[illegible]	Bentonite	7.00/sk.	[illegible]
[illegible]	Core Box	10.[illegible]	[illegible]
.5 [illegible]	Cold Patch	[illegible]	[illegible]
[illegible] hours	Piezometer Installation	[illegible]	[illegible]

(C-406A)

SOIL SAMPLING SERVICE, INC.
5815 North Meridian
PUYALLUP, WASHINGTON 98371

SOLD TO: Shannon & Wilson, Inc.
1032 S.W. Morrison Street
Portland, Oregon

Invoice Number: O-55-3
Invoice Date: 3-2-70
Terms: Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1.0 hour	Standby	35.00/hr.	35.00
6.0 hours	Cleanup	17.50/hr.	105.00
			[illegible],302.[illegible]

O.K.
LRS
([illegible])

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APR 1 - 1970
FOR FILING

26-1181

7.86

0-406

WILLIAM L. SHANNON, P. E.
STANLEY D. WILSON, P. E.
WALTER L. WRIGHT, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE · PORTLAND · BURLINGAME
1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 · (503) 223-6147

March 26, 1970

Oregon State Highway Department
Oregon Highway Building
Salem, Oregon

Attention: Mr. F. Klaboe
Assistant State Highway Engineer

Bureau of Parks
1107 S. W. 4th Ave.
Portland, Oregon

Attention: Mr. H. Buckley
Superintendent of Parks

Re: Summary of Groundwater and
Movement Data
Zoo Slide
Portland, Oregon

Gentlemen:

During the past winter months we have collected certain data pertinent to the OMSI-ZOO landslide. The enclosed figures and table summarize this information.

The Summary of Water Level Readings, Table IV, shows that water levels at the site generally rose on the order of 2 to 7 feet between the reading dates of July 25, 1969 and January 28, 1970, and that as of March 19, 1970, the water levels had, for the most part, returned almost to their summer levels. Fig. 6 shows the horizontal movement of selected survey points and the precipitation data up to and including February, 1970. As shown, the surface movement of the slide during the past winter is less than one-half of the movement which occurred during the corresponding period of the proceeding winter. The reduction in movement probably reflects a difference in the water table levels in the slide during the past two winter periods. This opinion is supported by the reduction in the amount of the total rainfall of the past winter as compared to the winter of 1968-69 (refer to Fig. 6).

Movement of the slide was also checked this past winter in the two slope indicators installed in borings B-4 and B-5. You will recall that no earlier movements had been observed. The results of these readings are presented to the left of the subject borings in Fig. 21, Geologic Cross Section A-A', in the form of a curve of dis-

copy to Mech
3-31-70

NOTED
F. B. KLABOE

placement versus depth. As you will note, the slide movement this past winter was in the order of 2 inches which compares well with the surface movement data. In addition, the slope indicator data confirms the position of the failure plane, assumed for earlier calculations.

Very truly yours,

SHANNON & WILSON, INC.

by L. Radley Squier
L. Radley Squier, P.E.

PBK:LRS:gg

Enclosures (3)

cc: Shannon & Wilson, Inc.
Attn: Mr. S. D. Wilson

CEIVED
27
OFFICE OF
STATE HIGHWAY ENGINEER

WATER LEVEL DEPTH IN FEET BELOW

OBSERVATION WELL NO.		DEPTH IN FEET	DATE OF READING	4/10	4/14	4/18	4/22	4/29	5/6	5/14	5/19
B-1	SH	55.5					42.3	DRY	43.5		43.5
	DP	83.0					82.3	83.0	82.8		DRY
B-2	SH	55.0				32.7	21.5	18.5	18.0		17.7
	DP	102.7				85.0	75.6	74.0	73.2		74.8
B-3	SH	47.5							7.0	7.6	7.7
	DP	77.0			55.7	55.7	55.5		44.3		42.1
B-4	SH	44.5		15.1	15.3	15.5	15.6	15.5	15.8	15.8	15.7
	DP	98.5		70.7	68.6	69.4	69.7	70.6	70.1	71.3	71.5
	SI	88.0		56.5	59.0	58.3	57.7	58.7	57.4	56.9	58.7
B-5	SH	45.5		41.6	42.7	42.9	40.3	37.2	43.0		42.3
	DP	80.5		80.0	80.0	80.0	79.8	80.1	DRY		DRY
	SI	78.0		77.5	80.2	DRY	DRY	DRY	DRY	DRY	DRY
B-6	SH	37.5					DRY	16.3	13.8	13.4	13.5
	DP	57.5			53.7	54.5	54.4	54.3	54.6	54.7	54.7
B-7	SH	55.8			54.9	DRY	55.8	DRY	DRY	DRY	DRY
	DP	87.0		75.7	76.9	76.3	77.0	77.3	77.2	77.2	77.3
B-8	SH	45.0					33.0	14.9	14.4	14.3	14.4
	DP	68.1					68.1	DRY	DRY	DRY	DRY
B-9		7.7					DRY	DRY	DRY	DRY	DRY

LEGEND

B-1 ← BORING LOCATION AT WHICH OBSERVATION WELLS INSTALL
SH

← SH, DP, SI – SYMBOLS INDICATE SHALLOW OBSERVA
DEEP OBSERVATION WELL, AND SLOPE INDICATOR

N FEET BELOW GROUND SURFACE

/6	5/14	5/19	5/23	5/26	6/9	6/25	7/25	1/28/70	2/26	3/19
.5		43.5	43.3	43.3	TRACE	42.6	42.2	40.5	—	42.3
2.8		DRY	82.7	82.9	73.0	81.7	83.7	83.9	—	83.3
.0		17.7	17.7	17.7	18.1	18.3	17.9	14.5	15.4	—
.2		74.8	74.7	74.8	74.2	—	—	0.8	6.2	—
7.0	7.6	7.7	7.4	7.6	5.0	7.3	7.5	4.1	4.8	7.8
4.3		42.1	47.1	50.8	46.9	45.6	—	50.9	51.2	45.0
.8	15.8	15.7	15.7	15.8	15.8	14.7	10.9	8.9	12.8	13.0
0.1	71.3	71.5	71.3	71.5	71.7	69.9	—	74.6	79.0	92+
7.4	56.9	58.7	58.2	57.5	57.8	49.1	3.5	10.5	37.5	54.0
3.0		42.3	42.8	43.4	43.7	38.7	44.6	36.0	40.6	42.9
Y		DRY	80.0	80.0	80.0	TRACE	80.0	79.8	79.2	79.9
RY	DRY	DRY	DRY			80.7	DRY	55.4	57.0	57.6
3.8	13.4	13.5	13.6	13.6	13.3	—	12.1	6.7	9.4	9.7
4.6	54.7	54.7	54.4	54.4	54.4	—	54.4	55.2	54.8	55.2
RY	DRY	DRY	DRY	DRY	—	—	55.2	55.0	55.3	55.7
7.2	77.2	77.3	76.9	77.0	—	—	77.3	87.8	86.3	86.4
4.4	14.3	14.4	14.2	14.2	14.5	13.7	14.2	10.4	13.6	—
RY	DRY	DRY	DRY	DRY	DRY	TRACE	67.8	68.1	67.8	—
RY	DRY	DRY	DRY	TRACE	TRACE	TRACE	7.8	LOST	—	—

TION WELLS INSTALLED

E SHALLOW OBSERVATION WELL,

D SLOPE INDICATOR CASING

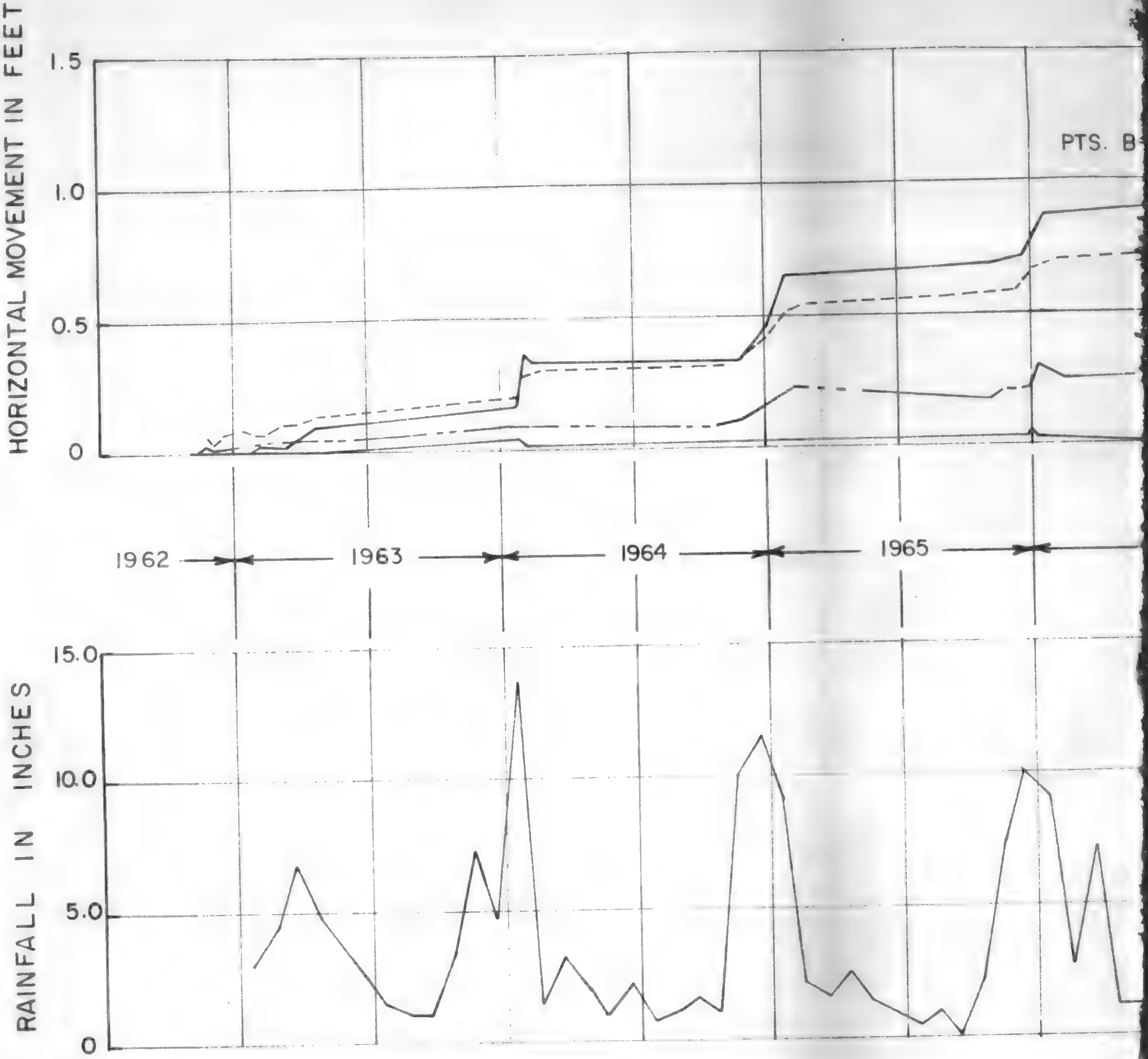
OMSI – ZOO SLIDE
PORTLAND, OREGON

SUMMARY OF WATER LEVEL READINGS

0-406 MAY, 1969

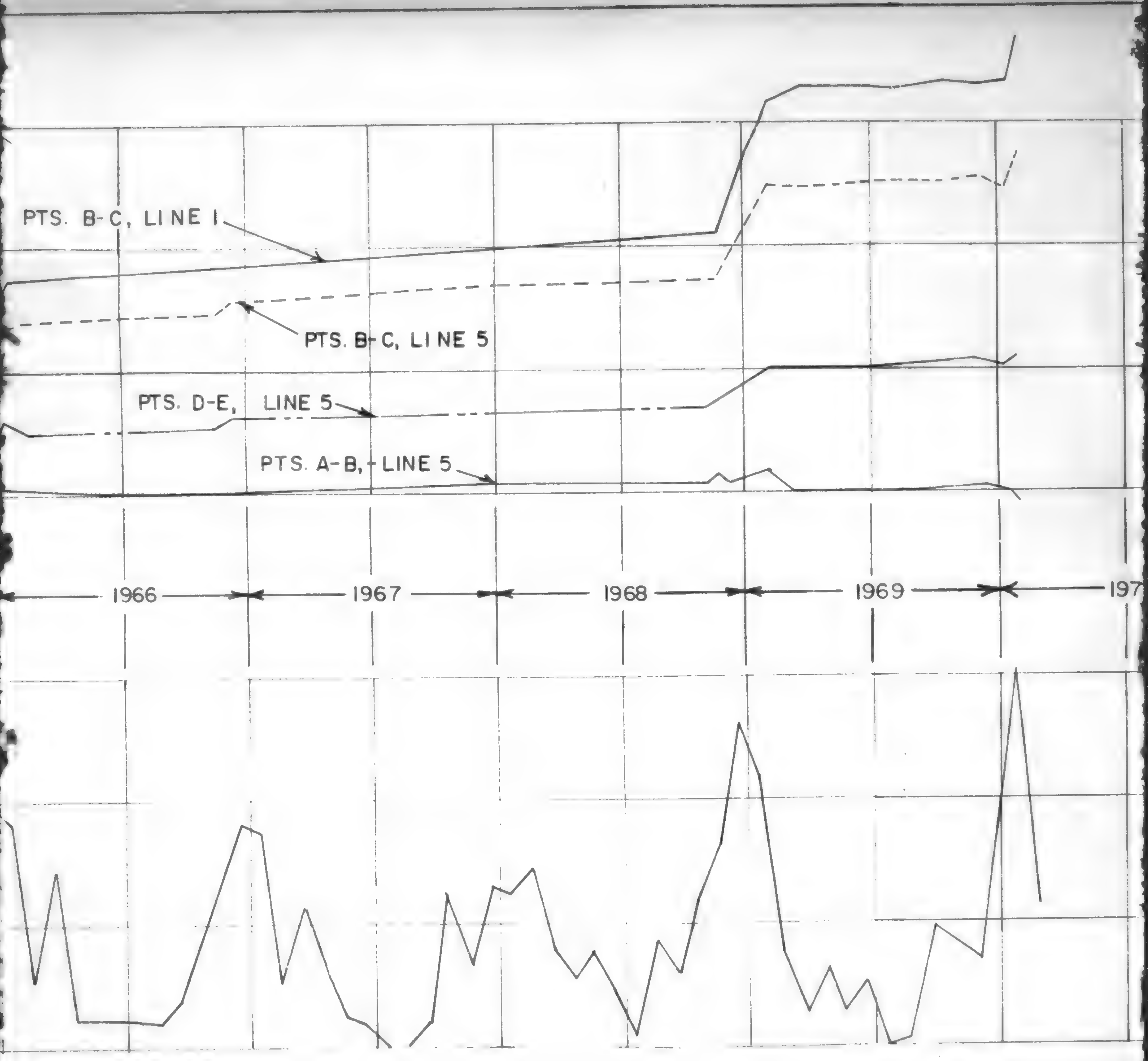
SHANNON & WILON, INC.
PORTLAND, OREGON

TABLE IV



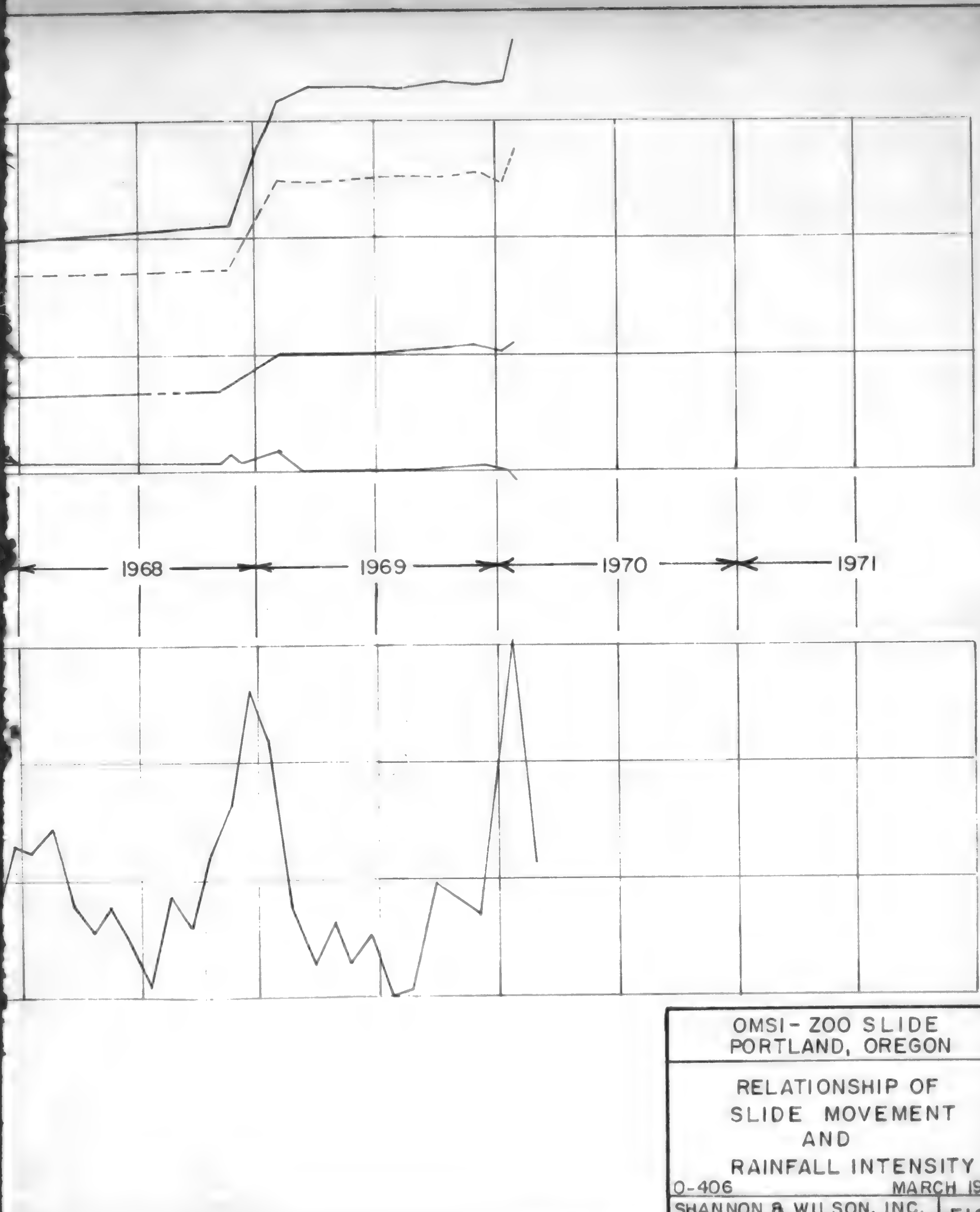
NOTES: 1. HORIZONTAL MOVEMENT IN
BUREAU OF PARKS SURVE

2. PRECIPITATION DATA O
WEATHER BUREAU AT TH
DOWNTOWN PORTLAND



MENT INFORMATION FROM
KS SURVEY DATA

DATA OBTAINED BY U.S.
U AT THE CUSTOM HOUSE,
TLAND



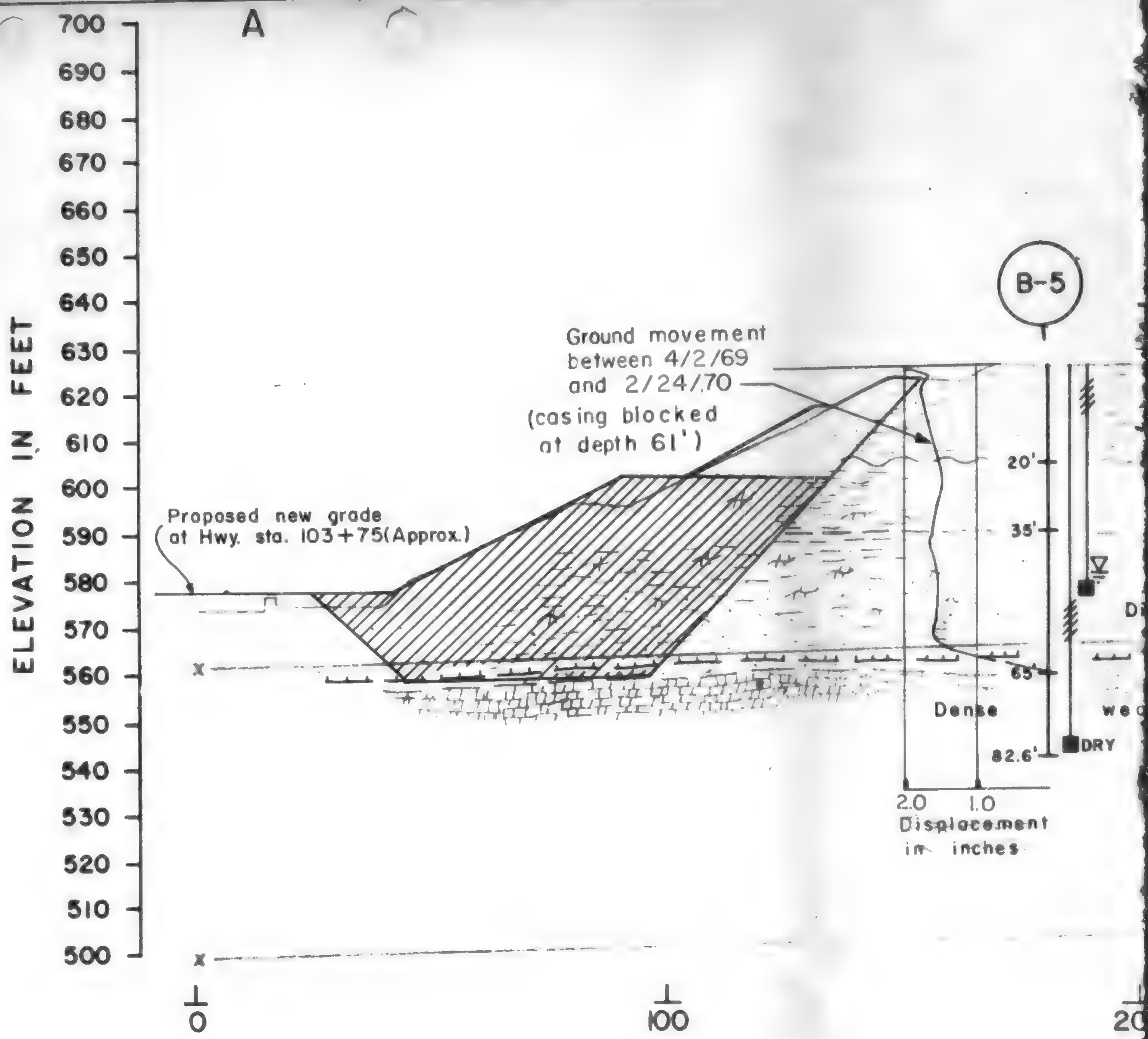
OMSI-ZOO SLIDE
PORTLAND, OREGON

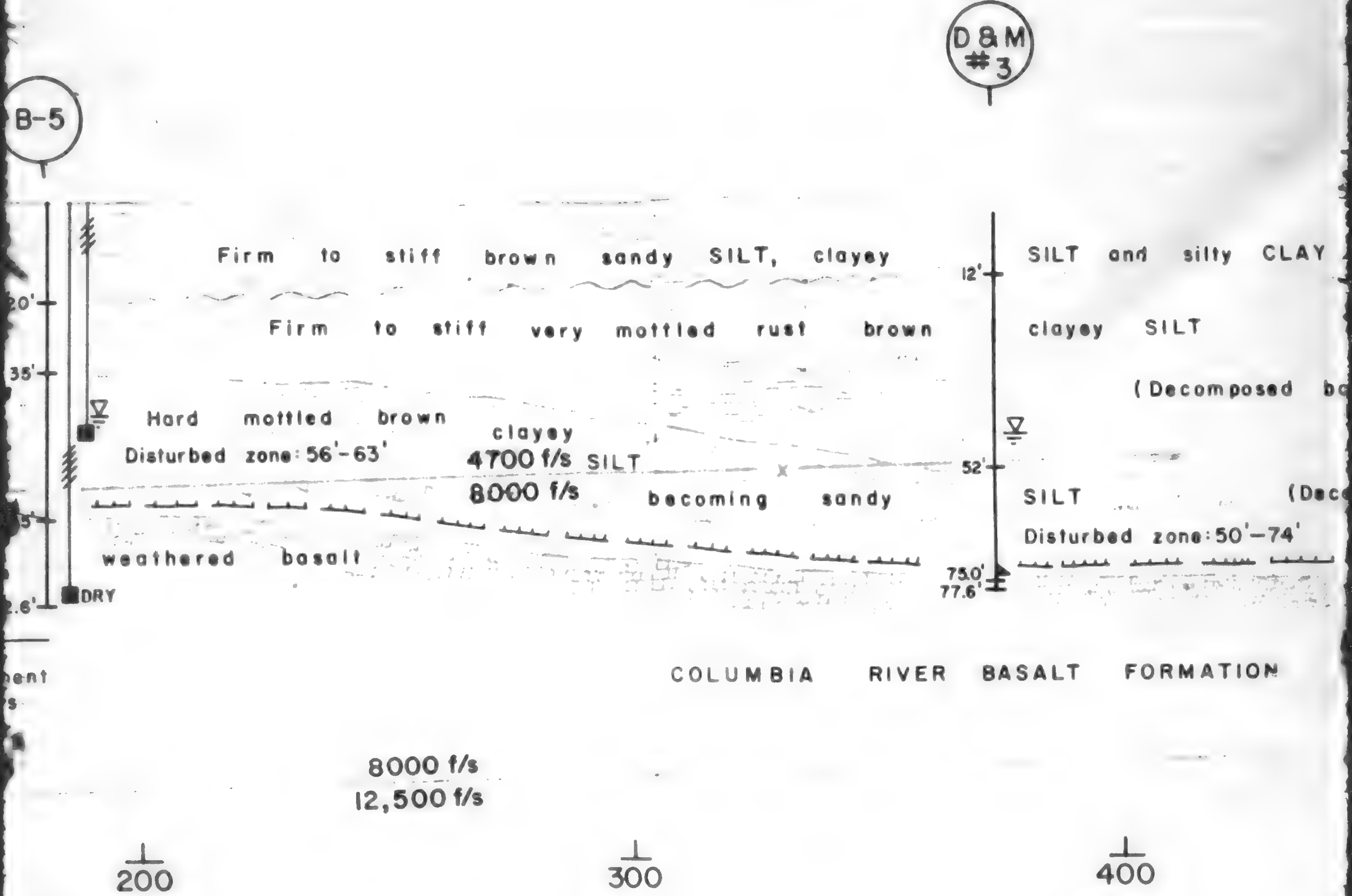
RELATIONSHIP OF
SLIDE MOVEMENT
AND
RAINFALL INTENSITY

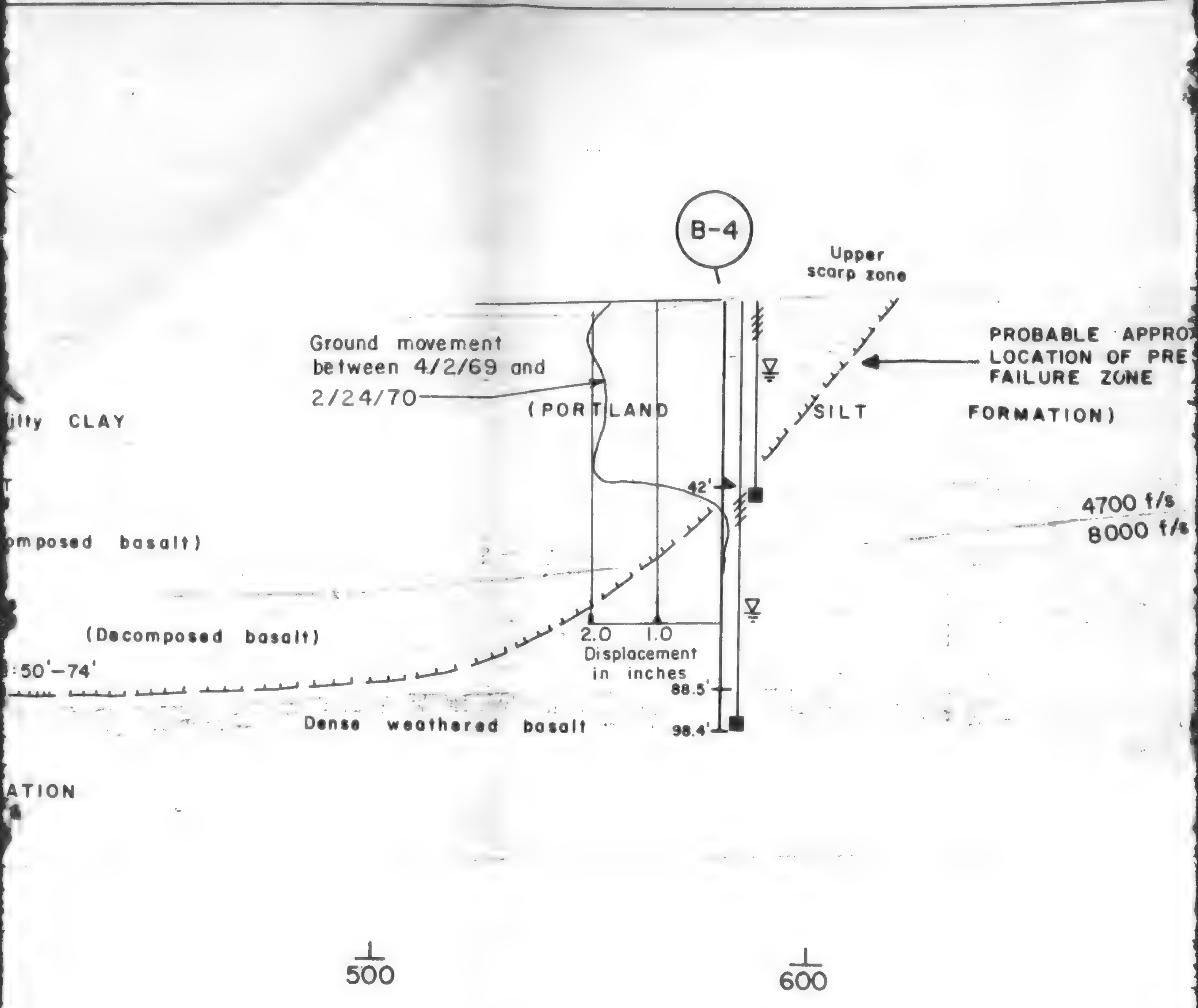
0-406 MARCH 1970

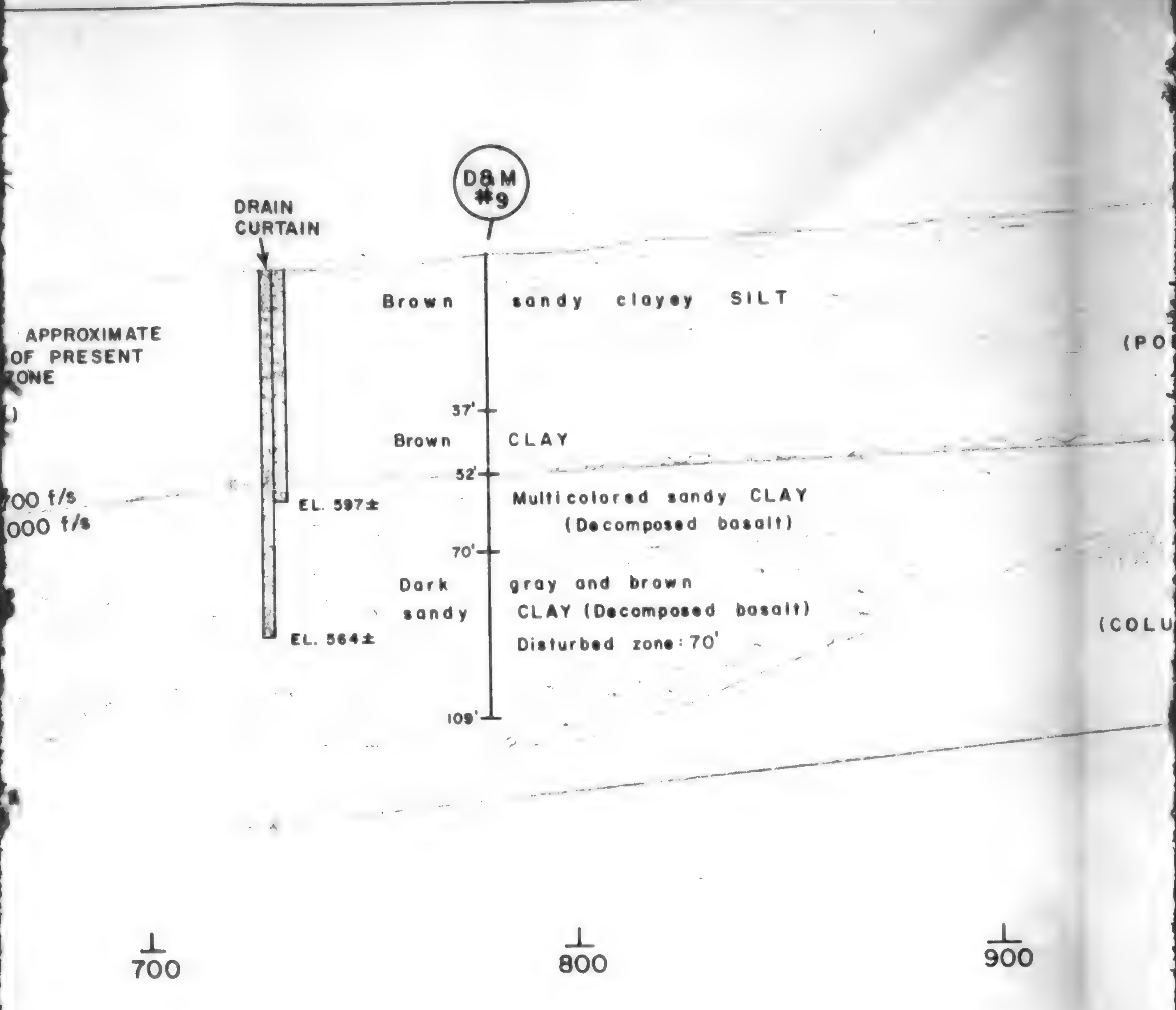
SHANNON & WILSON, INC.
PORTLAND, OREGON

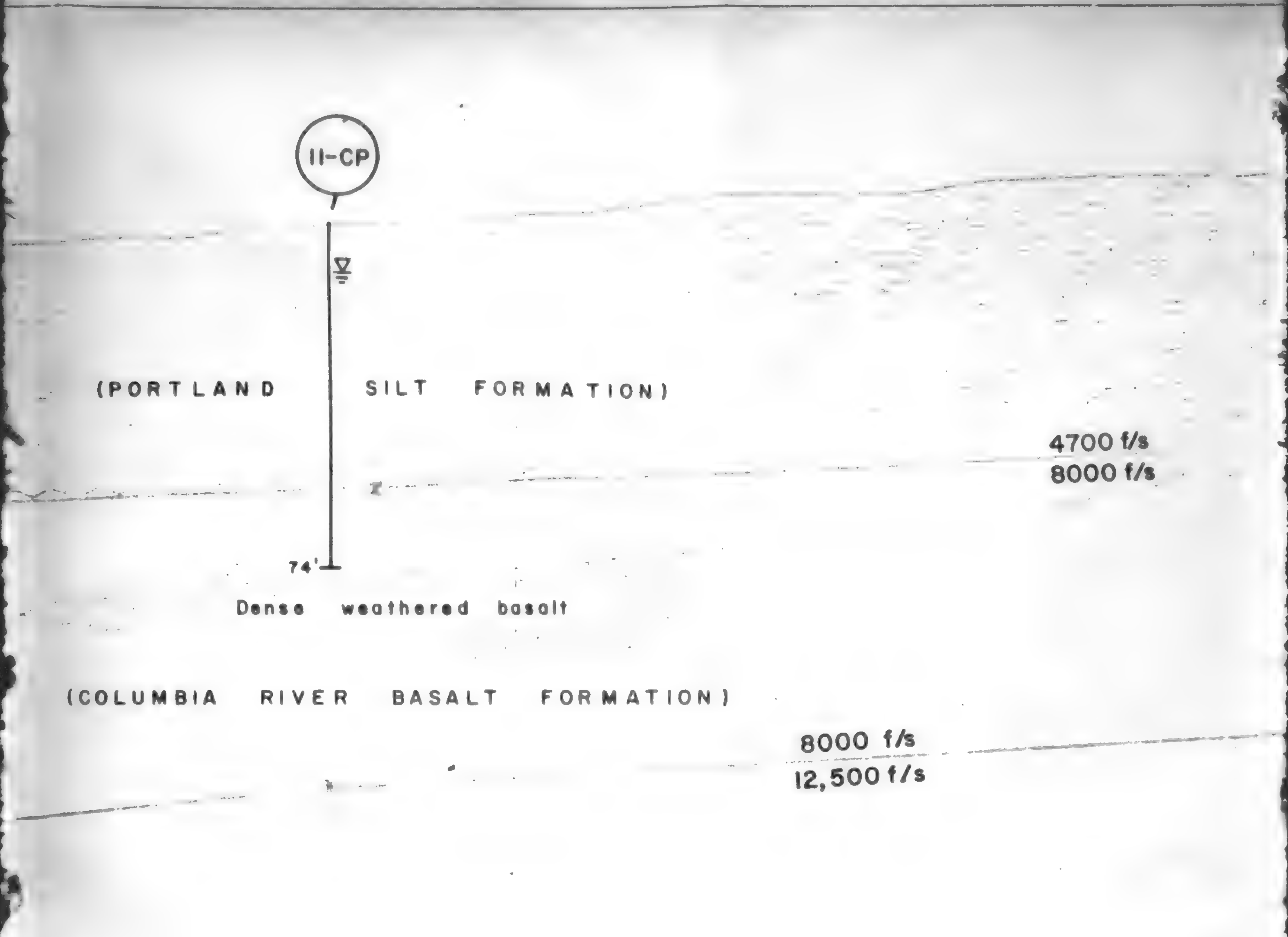
FIG. 6

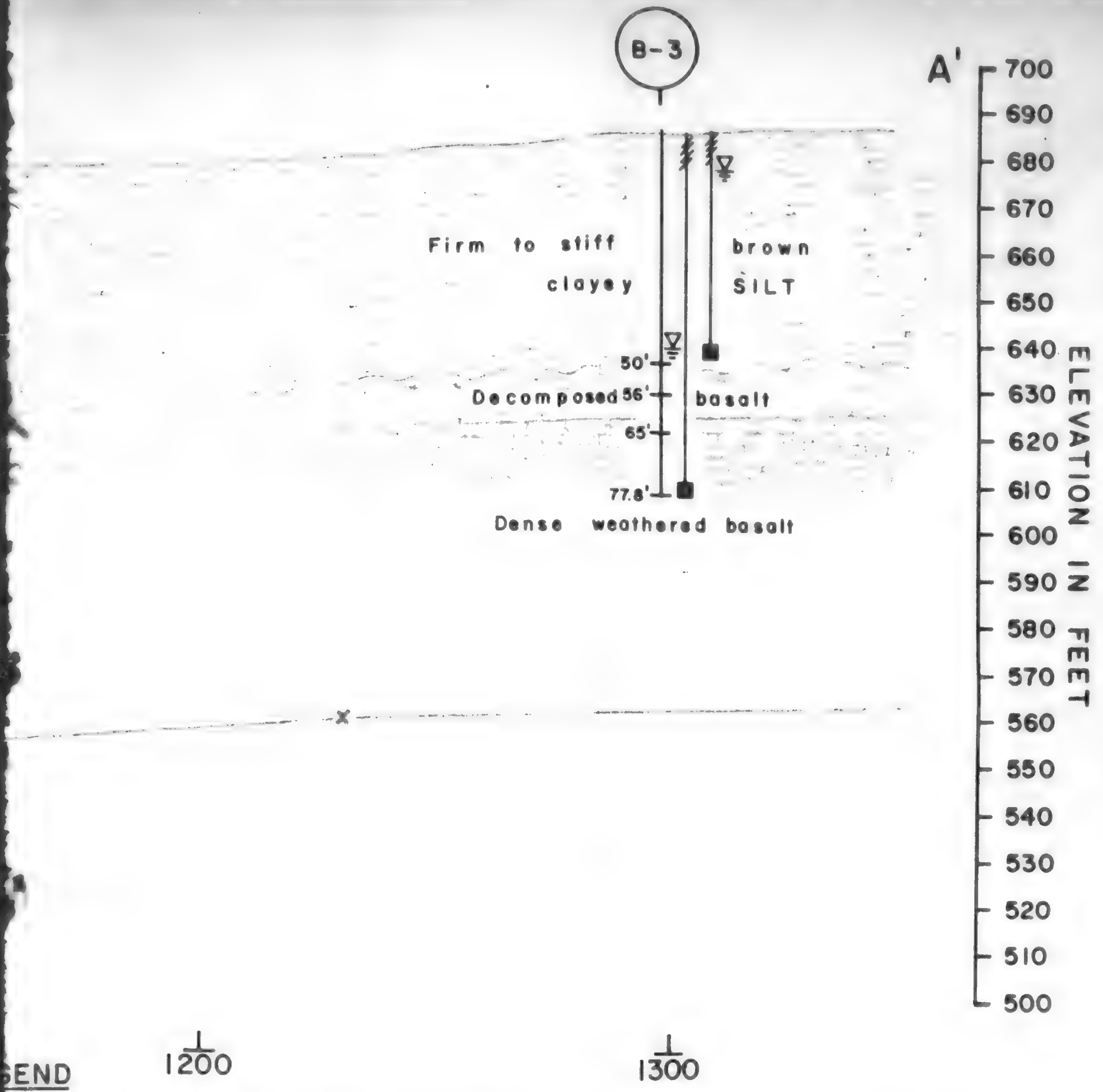

A
ELEVATION IN FEET
700
690
680
670
660
650
640
630
620
610
600
590
580
570
560
550
540
530
520
510
500
B-5
Ground movement
between 4/2/69
and 2/24/70
(casing blocked
at depth 61')
Proposed new grade
at Hwy. sta. 103+75(Approx.)
20'
35'
65'
82.6'
Dense
DRY
2.0
1.0
Displacement
in inches
0
100


B-5
D&M #3
Firm to stiff brown sandy SILT, clayey
SILT and silty CLAY
12'
20'
Firm to stiff very mottled rust brown
clayey SILT
35'
(Decomposed ba
Hard mottled brown
clayey
4700 f/s SILT
8000 f/s
Disturbed zone: 56'-63'
52'
becoming sandy
SILT
(Dec
Disturbed zone: 50'-74'
weathered basalt
75.0'
77.6'
DRY
ment
s
COLUMBIA RIVER BASALT FORMATION
8000 f/s
12,500 f/s
200
300
400


B-4
Upper scarp zone
Ground movement between 4/2/69 and 2/24/70
PROBABLE APPROX
LOCATION OF PRES
FAILURE ZONE
ilty CLAY
(PORTLAND
SILT
FORMATION)
42'
4700 f/s
8000 f/s
omposed basalt)
(Decomposed basalt)
:50'-74'
2.0
1.0
Displacement in inches
88.5'
Dense weathered basalt
98.4'
ATION
500
600

DRAIN CURTAIN
D&M #9
Brown sandy clayey SILT
APPROXIMATE
OF PRESENT
ZONE
(PO
37'
Brown CLAY
52'
Multicolored sandy CLAY (Decomposed basalt)
700 f/s
000 f/s
EL. 597±
70'
Dark sandy gray and brown CLAY (Decomposed basalt)
Disturbed zone: 70'
(COLU
EL. 564±
109'
700
800
900


11-CP
(PORTLAND SILT FORMATION)
4700 f/s
8000 f/s
74'
Dense weathered basalt
(COLUMBIA RIVER BASALT FORMATION)
8000 f/s
12,500 f/s
1000
1100
SCALE
0 20 40 60 100 Feet
Vertical & Horizontal
LEGEND
Piezometer water level
Impervious seal (Bentonite
Piezometer (Porous tip)
11CP D&M #3 Borings by others, 1956–1
Slope indicator failure z
Zone of failure
f/s Feet per second
B-3


B-3
A'
700
690
680
670
660
650
640
630
620
610
600
590
580
570
560
550
540
530
520
510
500
ELEVATION IN FEET
Firm to stiff brown
clayey SILT
50'
56'
65'
77.8'
Decomposed basalt
Dense weathered basalt
1200
1300

GEND

er level

$\frac{4500 \text{ f/s}}{7500 \text{ f/s}}$ Seismic velocity interface

(Bentonite)

ous tip)

s, 1956-1960

failure zone (1959 Investigation)

(B-3) Borings by SHANNON and WILSON, April, 1969

OMSI-ZOO SLIDE
PORTLAND, OREGON

GEOLOGIC CROSS-SECTION
A-A'

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 21

RECEIVED
APR 23 1970
FOR FILING

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

March 25, 1970

30

Oregon State Highway Commission

Gentlemen:

You will recall that an investigation and study was made of the slide situation near OMSI and the Portland Zoo. The study, which was done by an independent consultant, Shannon and Wilson, was jointly financed by the City of Portland and the Highway Commission and was to determine what, if any, measures could be taken to stabilize the area.

Without admitting liability on the part of the Commission, it is my understanding that it is your instruction that this Division, at State expense, undertake the recommended corrective procedures. The recommendation is for a heavy rock buttress wall to be placed along the side of Canyon Road and directly in front of the area that is moving. The contemplated wall is 700 feet in length and approximately 50 feet in thickness and will have to be constructed during the summer season.

Normally, this work would be advertised for contract but because it is so closely related to the existing widening of Canyon Road it should be done by the contractor working on that section. In other words, there is not room for two contractors to work in the area simultaneously as each other's work would be in conflict. The only other alternate would be to delay the buttress construction for another year, which is considered unwise.

A price agreement to accomplish this work has been negotiated with Peter Kiewit Sons' Co., contractor on the Canyon Road widening, for the sum of $460,522.60. When the cost of flagging, digging test holes, and engineering is added it will

P.A. - 499,257.40
24,962.87
total - 524,220.27

see est. refig. of P.A. #11

bring the total estimated expenditure to $518,574.86. It is unusual to negotiate a price agreement for work of this magnitude; however, because the work is so closely related to the Canyon Road work, it is the only feasible way to undertake the project immediately and I recommend that we proceed.

Chairman Jackson gave his verbal approval on March 24, and the matter will be on the agenda for the April 21 meeting for your concurrence.

Very truly yours,

Original sign
Forrest Coop

Forrest Cooper
State Highway Engineer

cc Floyd Query
R. L. Porter ✓
F. B. Klaboe
Victor D. Wolfe
F. D. Morgan
L. H. Young
V. E. Skoog
A. E. Johnson

STATUS OF PROJECT

SECTION Highlands Interchange - Vista Ridge Tunnel HIGHWAY Sunset

PREFIX 26-1181 CONTRACT NO. 7186 FA NO. State

CONTRACTOR Peter Kiewit Sons' Co. RESIDENT ENGINEER E. L. Scrivner

SUBMITTED WITH (PA No. 11
(EWO No. ______
(SFO No. ______

DATE April 9, 1970

	ORIGINAL AUTHORIZATION	ESTIMATED PROJECT COST
Construction Bid Items	$ 2,359,339.00	$ 2,261,642.19
Engineering	197,571.12	285,000.00
Contingencies	111,133.75	
Anticipated Items	110,300.00	3,000.00
Existing Price Agreements		39,681.44
Existing Extra Work Orders		123,765.08
Existing State Force Orders		23,716.64
This Price Agreement		499,257.40
This Extra Work Order		
This State Force Order		
TOTAL	$ 2,778,343.87	$ 3,236,062.75
Overrun or Underrun in $ OVER		457,718.88
Overrun or Underrun in % OVER		16.47

REMARKS

OMSI - ZOO Buttress Construction
Engineering increased by 5% of amount of this price Agreement. = $ 24,962.87
+ 499,257.40
$ 524,220.27

Est. [illegible]

FORM E-30 (REV. 10-69)

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon
March 12, 1970

Routing
Morgan
Decker
Wallace
Boehme
Johnson
Pease
Swan
Glenn
Litchfield
Gallagher
Stein

RECEIVED
MAR 16 1970
CONSTRUCTION
DIVISION

E. Johnson

SUBJECT: Highlands Interchange-Vista
Ridge Tunnel Section
Sunset Highway
Proposed Rock Buttress

To: Mr. F. D. Morgan
Construction Engineer
Salem

For some time we have been negotiating with Mr. Norman McKibben of Peter Kiewit Company, present contractors for the subject project, for prices for constructing a rock buttress on the north side of the highway in the vicinity of the Portland Zoo. This buttress was recommended to us by our consultants, Shannon and Wilson, and we propose to construct it in accordance with their recommendations.

Enclosed herewith is a copy of a letter from Mr. Ernest L. Scrivner, Resident Engineer, submitting an estimate for the cost of the work based on prices negotiated with the contractor and which would amount to a price agreement basis. There are submitted in addition to the estimate supporting data and analysis of contractor's prices as well as copies of proposals submitted by other agencies to the contractor. There are also included copies of the contractor's worksheets indicating how he has arrived at his tentative cost. The prices included in the estimate are prices that have been submitted by the contractor and are purportedly his estimated costs plus 5 percent overhead and 15 percent profit, for a total added percentage of 20 percent. It is to be noted in Mr. Scrivner's letter that he feels that the item for relocating temporary illumination could possibly be performed at a less expensive figure on an extra work basis and indicates that he feels the $4800 for this item is excessive. You will note that some of the items appearing in the estimate are also covered by bid items under the current contract and in some cases are slightly higher than the bid item due to small quantities involved after the buttress is constructed and the confined quarters in which to work.

Mr. Fred Klaboe has requested that this material be forwarded to you for further handling and for consideration for performing on a price agreement basis or advertising for additional bids.

A E Johnson
A. E. Johnson
Metropolitan Engineer

AEJ:lh
Enc
cc: F. B. Klaboe
D. J. Barbee
Ernest L. Scrivner

Ed Johnson says these prices can be justified. 3-19-70

SP*52475-734

RECEIVED
MAR 30 1970
FORM E-20 (REV 10-69)
FOR FILING

26-1181

7186

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon
March 24, 1970

SUBJECT: Highlands Interchange-Vista
Ridge Tunnel Section
Contract 7186
Proposed Rock Buttress

To: Mr. F. B. Klaboe
Assistant State Highway Engineer
Salem

Enclosed is a copy of a letter from Mr. Norman V. McKibben, Area Manager, Peter Kiewit Sons' Co., relative to construction of the rock buttress on the subject project. Mr. McKibben is asking for an early decision on whether or not prices submitted by him will be acceptable in order that he may schedule necessary equipment, etc. Advice in answering Mr. McKibben would be appreciated.

A E Johnson
A. E. Johnson
Metropolitan Engineer

AEJ:lh
Enc

cc: Ernest Scrivner

3/25/70
Johnson advised the proposal
FBK

NOTED
F. B. KLABOE

RECEIVED
MAR 25 1970
OFFICE OF
STATE HIGHWAY ENGINEER

SP*92475-734

PETER KIEWIT SONS' CO.
CONTRACTORS
ESTABLISHED 1884
HOME OFFICE-OMAHA, NEBRASKA
P. O. Box 1777
VANCOUVER, WASHINGTON

March 20, 1970

Oregon State Highway Department
5821 N. E. Glisan Street
Portland, Oregon 97213

Attention: Mr. Ernest L. Scrivner
Resident Engineer

Re: OSHD Contract No. 7186
Highlands Interchange -
Vista Ridge Tunnel Section
Vista Job No. 4092
Serial Letter V-54

Gentlemen:

Reference is made to the tentative prices we have given for repair of the zoo slide. As you know, these prices were based on being able to obtain a large fleet of legal trucks, being able to use some quantity of the slide material on Stage 6 of our Vista project, and on a dragline and other machines being available within our organization.

We have reached the time of year when we have to make a commitment to the legal truckers if we want to tie them up for the summer season. We have also reached the point in the Vista project where we have to decide whether to stockpile enough excavation from the First National Bank building to complete Stage 6.

If we are to do the work at the prices we gave you, we must have a final decision in time to get the necessary trucks committed, and before we have already stockpiled material on the project to complete Stage 6. For these reasons, we would appreciate an answer from you as soon as possible.

Yours very truly,

PETER KIEWIT SONS' CO.

Norman V. McKibben
Area Manager

NVM/hms
cc: Res. Eng. (3)
Al Johnson, OSHD
Job
File

METROPOLITAN ENGINEER
RECEIVED
MAR 23 1970
☐ ME ☐ AME ☐ AME ☑ MCS ☐ MDS ☐ MTE

RECEIVED
MAR 30 1970
FOR

c

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
1632 S.W. MORRISON STREET • PORTLAND, OREGON 97205
TELEPHONE (503) 223-6147

INVOICE NUMBER
185

TO
Oregon State Highway Department
City of Portland
State Highway Bldg.
Salem, Oregon

Attention: Mr. F. B. Klaboe

INVOICE DATE	CONTRACT OR PURCHASE ORDER	AUTHORIZED FEE	JOB NUMBER
3/18/70			0-406

PROFESSIONAL SERVICES

ENGINEERING SERVICES	40½ hours 231.72 x 2.5	$579.30
REIMBURSABLE EXPENSES		114.83
Breakdown of above charges on next sheet		
TOTALS		$694.13

RECEIVED
MAR 30 1970
OFFICE OF
STATE HIGHWAY ENGINEER

THIS PERIOD: FROM Feb 1 TO Feb 28, 1970

☒ PROGRESS INVOICE ☐ FINAL INVOICE

JOB REFERENCE:

Slope Stability Investigation, Portland Zoological Gardens, Portland, Ore.

orig to Skoog 3-30-70

NOTED
F. B. KLABOE

TERMS: NET 30 DAYS. PLEASE PAY FROM THIS INVOICE. STATEMENTS SENT ONLY UPON REQUEST.

State Highway Department
City of Portland
Invoice 185
March 18, 1970

BREAKDOWN OF LABOR

Principal Engineer	W. L. Wright	4 hours	@ 11.538	= 46.16	
	L. R. Squier	7 "	@ 8.654	= 61.44	
	L.R. Squier	2 "	@ 8.942	= 17.88	(new rate)
Engineer	P. B. Kelly	4 "	@ 6.087	= 24.35	
Lab Technician	M. Mohr II	21 "	@ 2.74	= 57.54	
	M. Mohr II	½ "	@ 4.11	= 2.06	(O.T.)
Draftsman	C. MacKenzie	½ "	@ 2.452	= 1.23	
Clerical	G. Gehrke	1½ "	@ 2.596	= 3.90	

BREAKDOWN OF REIMBURSABLE EXPENSE

Telephone	6.99	
Freight (samples)	4.54	
Reproduction	3.30	
J. Mueller	100.00	(x-ray diffraction & differential thermal analysis to identify clay minerals particularly montmorillonite)

SANDEBERG, RECKEN & LUETJEN
ATTORNEYS AT LAW
PUBLIC SERVICE BUILDING
PORTLAND, OREGON 97204

DAVID SANDEBERG
ROBERT L. RECKEN
CALVIN H. LUETJEN

TELEPHONE
222-9467

March 1[illegible], 1970

RECEIVED
MAR 16 1970
LEGAL & RIGHT OF WAY

Mr. L. I. Lindas
Chief Counsel
Oregon State Highway Division
Highway Building
Salem, Oregon 97310

Attention: Mr. Frank C. McKinney, Assistant Counsel

Re: West Slope Water District

Dear Sir:

The Board of Commissioners of West Slope Water District approved the settlement in the amount of $3,167.19. You may proceed to present the matter to the Commission and thereafter draw the necessary papers to conclude the settlement.

In drawing up the release I believe it should only cover the relocation costs for our line that was in old Jefferson Road. We only made claim for the pipe that was buried after ORS 366.321 became effective, which was the approximately 700 lineal feet in the upper end of old Jefferson Road. It is agreeable with us for the release to cover all of our pipe located in old Jefferson Road however.

Very truly yours,

Bob

Robert L. Recken

RLR/slb

orig to Porter
3-16-70

RECEIVED
MAR 16 1970
OFFICE OF
STATE HIGHWAY ENGINEER

FORM E-80-X (12-67)

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon

March 12, 1970

To: Mr. D. J. Barbee
Design Engineer
Salem

SUBJECT: Highlands Interchange-Vista Ridge Tunnel Section
Sunset Highway
Proposed Rock Buttress

Returned herewith is one copy of plans for the subject buttress which we have examined and have indicated thereon recommended changes. Quantities indicated on Sheet 7C have been revised by Mr. Ernest Scrivner, Resident Engineer, in accordance with his latest estimates.

Originally our consultants, Shannon and Wilson, recommended a two-course stone drainage blanket and at our request, because of difficulty of placing, later approved a one-course stone drainage blanket consisting of river-run graded material which would be furnished through a pug mill or a concrete mixer truck. It has developed that the estimated cost of such a graded material based on quotes from local suppliers would be in excess of $11 a yard, and we have therefore returned to the original proposition of a two-course drainage blanket consisting of 1½"-0" material in one course and sand in the other course. Sheet 7C has been revised to provide for these quantities, and Sheet 2R has been revised to indicate the two courses.

You have been furnished a copy of our proposed estimate for work to be performed, which is being forwarded to Mr. F. D. Morgan this date, and determination will be made whether or not the work will be done by price agreement or additional contract.

A. E. Johnson
Metropolitan Engineer

AEJ:lh
Enc
cc: F. B. Klaboe ✓
F. D. Morgan
Ernest L. Scrivner

FORM E-50 50M 6-61 36681

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
March 12, 1970

SUBJECT:

To: Mr. A. E. Johnson
Metropolitan Engineer
OFFICE

OMSI-ZOO Buttress Estimate
Highlands Interchange -
Vista Ridge Tunnel Sec.
Sunset Highway
Multnomah County
Contract No. 7186

Submitted herewith cost estimate in connection with subject project.

Data submitted includes contractor's work sheets, quotations, and our analysis comparing contractor's prices for some of the major items and cost of doing work on force account basis.

In preparing the force account estimate, it was assumed that the contractor's production rates, equipment, and labor, as shown on his work sheets, was realistic. Some of the miscellaneous expenses were not itemized so were added to cost on lump sum basis.

Items which are the same as this contract, and would be compared with contract bid prices, were not included in force account estimate. The proposed increase on some of these items is probably justified due to small quantities involved.

It should be noted that force account estimates are based upon current equipment and labor rates, and any increase in these during summer would add to cost of work if performed on extra work basis.

The contractor's quotation for "Relocate Temporary Illumination" has no supporting data, but it is our understanding that this would be accomplished by moving the existing temporary illumination poles right of Sta. 99, 101, & 103 out to slope above proposed buttress, extend support cables, and re-wire. This would probably require additional poles, cable, wire, and ballasts to keep temporary lighting operational.

I feel that the contractor's quote for revising the temporary illumination is too high, and suggest that this part of work be performed on extra work.

Ernest L. Scrivner
Resident Engineer

FORM E-50 50M 6-61 36681

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
March 12, 1970

SUBJECT:

To: Mr. A. E. Johnson
Metropolitan Engineer
OFFICE

OMSI-ZOO Buttress Estimate
Highlands Interchange -
Vista Ridge Tunnel Sec.
Sunset Highway
Multnomah County
Contract No. 7186

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I feel that the contractor's quote for revising the temporary illumination is too high, and suggest that this part of work be performed on extra work.

Ernest L. Scrivner
Ernest L. Scrivner
Resident Engineer

Form E-49

TABULATION SHEET

OREGON STATE HIGHWAY
DEPARTMENT

SHEET .... OF .... SHEETS

OMSI-ZOO BUTTRESS

Estimate (Rev.) 2-17-70

ITEM	Unit	Quantity	Allowance	Net Quantity	Unit Price	Total Cost
General Excavation, Uncl.	Cu.Yd.	39,600	3,960	43,560	$ 2.56	$ 111,513.60
Trench Excavation	Cu.Yd.	5	1	6	12.00	72.00
14"-0 Quarry Rock	Cu.Yd.	31,331	3,169	34,500	6.55	225,975.00
Rock Embankment	Cu.Yd.	6,849	681	7,530	5.60	42,168.00
$1\frac{1}{2}$"-0 Material in Filter Bed	Cu.Yd.	3,382	418	3,800	8.65	32,870.00
Sand in Filter Bed	Cu.Yd.	2,015	285	2,300	8.22	18,906.00
3/4"-0 Rock in Paved Ditch	Ton	40	4	44	4.50	198.00
Asph. Conc. in Paved Ditch	Ton	42	4	46	30.00	1,380.00
Flushing Manhole	Each	1	–	1	400.00	400.00
12" Sewer Pipe	Lin.Ft.	22	2	24	5.00	120.00
8" Perf. Drain Pipe	Lin.Ft.	1,530	150	1,680	3.00	5,040.00
Pea Gravel in Drains	Cu.Yd.	345	35	380	11.00	4,180.00
Plant-mix Stone Base	Ton	480	50	530	3.50	1,855.00
Bituminous Base Mixture	Ton	330	35	365	5.00	1,825.00
Asphalt in Mix	Ton	40	5	45	34.00	1,530.00
Class "B" Asph. Conc.	Ton	365	35	400	8.00	3,200.00
Type "C" Curb	Cu.Yd.	23	2	25	50.00	1,250.00
Relocate Temporary Illumination	Lump Sum	All	–	All	4,800.00	4,820.00
Type 2 Barricade	Lin.Ft.	550	50	600	5.40	3,240.00
					Total	$ 460,522.60
				Flagging		10,000.00
				Testing Pit		2,000.00
				Engineering 10%		46,052.26
				Grand Total		$ 513,57[illegible]

This estimate anticipates the use of Kruger Quarry rock for buttress and two layer filter blanket on slope.

Price Comparison OMSI-ZOO Buttress

Item	Unit	Contractor's Price	Force Acct.	Cont. #7186
General Exc., Uncl.	Cu. Yd.	$2.56	$2.54	$4.00
Trench Exc.	Cu. Yd.	12.00	—	12.00
14"-0 Quarry Rock	Cu. Yd.	6.55	$6.16	—
Rock Embankment	Cu. Yd.	5.60	$5.59	1.35
1½"-0 Material in Filter	Cu. Yd.	8.65	$8.02	—
Sand in Filter	Cu. Yd.	8.22	$7.59	—
¾"-0 in Paved Ditch	Ton	4.50	—	3.70
Asph. Conc. in Paved Ditch	Ton	30.00	—	Appr. $37.00
Flushing Manhole	Each	400.00	—	700.00
12" Sewer Pipe	Lin. Ft.	5.00	—	5.00
8" Perf. Drain Pipe	Lin. Ft.	3.00	—	3.00
Pea Gravel in Drains	Cu. Yd.	11.00	—	—
Plant-mix Stone Base	Ton	3.50	—	2.60
Bituminous Base Mixture	Ton	5.00	—	4.80
Asphalt in Mix	Ton	34.00	—	34.00
Class "B" Asph. Concrete	Ton	8.00	—	6.60
Type "C" Curb	Cu. Yd.	50.00	—	38.00
Relocate Temp. Illum.	All	4800.00	—	—
Type 2 Barricade	Lin. Ft.	5.40	—	—

Prices - Zoo Buttress (Force Account Basis)

General Excavation on Force Account Basis

Contractor's expected production rate is 95 CY/Hr.

Excavation	43,560	÷	95	=	459 Hrs.
Haul	28,560	÷	95	=	300 Hrs.

Equipment:

Dragline	2CY	459 Hr. @ $33.00	= $15,147.00	
Pickup	3/4 Ton	" Hr. @ 2.10	= 963.90	
Dozer/Ripper	D8	115 Hr. @ 25.20	= 2,898.00	
Dozer	D8	459 Hr. @ 25.20	= 11,566.80	
Trucks	10CY	1,800 Hr. @ 12.10	= 21,780.00	
			$52,355.70	+15% = $60,209.06

Labor: (Hourly rates include contractor's additives)

Foreman	367 Hr.-S.T. @ $8.00	= $2,936.00	
	92 Hr.-O.T. @ 11.63	= 1,069.96	
Dragline Op.	367 Hr.-S.T. @ 7.64	= 2,803.88	
	92 Hr.-O.T. @ 11.16	= 1,026.72	
Dozer Op.	459 Hr.-S.T. @ 7.30	= 3,350.70	
	115 Hr.-O.T. @ 10.80	= 1,242.00	
Truck Drivers	1440 Hr.-S.T. @ 6.69	= 9,633.60	
	360 Hr.-O.T. @ 9.77	= 3,517.20	
Oiler	367 Hr.-S.T. @ 6.61	= 2,425.87	
	92 Hr.-O.T. @ 9.61	= 884.12	
Laborers	367 Hr.-S.T. @ 5.93	= 2,176.31	
	92 Hr.-O.T. @ 8.61	= 792.12	
		= $31,858.48	+20% = $38,230.18

Total for major Equip. & Labor $93,439.24

Job No.
Sheet 2 of Sheets

OREGON STATE HIGHWAY DEPARTMENT

Prices - Zoo Buttress (Force Account Basis)

Made by 19 Checked by 19 Backchecked by 19

Misc. Expenses:

Temp. Drainage	- Equip.		$400.00
	Materials		368.00
	Labor		600.00
Cleanup Work Area	- Equip:		
	Dozer D8	40 Hrs. @ $25.20 = $1008.00	
	Pickup 3/4T.	40 Hrs @ 2.10 = 84.00	
		$1,092.00 +15%	= $1,255.80
	Labor:		
	Dozer Op.	40 Hrs. @ $7.67 = $306.80	
	Foreman	40 Hrs. @ 8.00 = 320.00	
		$626.80 +20%	= $752.16
Planking for Dragline	- Equip:		$200.00
	Labor:		800.00
	Small Tools		300.00
Lighting	- Equip:		
	Light Plant	1980 Hr. @ $2.00 = $3,960.00 +15%	= $4,554.00
Pumping	- Equip:		
	4" Pumps	800 Hr. @ $2.10 = $1,680.00 +15%	= $1,932.00
	Labor		$1,000.00
		Total Misc. Expenses $	12,161.96

Average Cost per CY $2.54

Job No. ......

Sheet 3 of ...... Sheets

OREGON STATE HIGHWAY DEPARTMENT

Prices - Zoo Buttress ...... (Force Account Basis).

...... Checked by ...., 19....... Backchecked by ...., 19

14"-0 Quarry Rock & Rock Embankment on Force Account Basis
Total of 41,130 Cu.Yd

Strip Quarry 100' x 200' x 8' = 5925 CY @ 150 Cu.Yd per Hr.

Equipment:

Loader	#966	40 Hr.	@ $17.50	= $700.00
Trucks	10 CY	80 Hr.	@ 12.10	= 968.00
Dozer	D-8	40 Hr.	@ 25.20	= 1,008.00
Pickup	3/4 Ton	40 Hr.	@ 2.10	= 84.00

$2,760.00 +15% = $3,174.00

Labor:

Loader Op.	40 Hr.	@ $7.87	= $314.80
Truck Op.	80 Hr.	@ 6.69	= 535.20
Dozer Op.	40 Hr.	@ 7.30	= 292.00
Foreman	40 Hr.	@ 8.24	= 329.60

$1471.60 +20% = $1,765.92

$4,939.92

$4,939.92 ÷ 41,130 CY = $0.120 / Cu.Yd.

Drill & Shoot Quarry Assumed 10% oversize on all material and 20% undersize on buttress rock due to screening.
Total of 60,500 CY to be drilled & Shot.
(Contractor's expected production rate is 150 CY / Hr.)

Equipment:

Drill	3½"	403 Hr.	@ $6.90	= $2,780.70
Compressor	900	403 Hr.	@ 16.50	= 6,649.50
Pickup	3/4 Ton	403 Hr.	@ 2.10	= 846.30
Flatbed	1½ Ton	403 Hr.	@ 2.40	= 967.20

$11,243.70 +15% = $12,930.26

Job No.

Sheet 4 of Sheets

OREGON STATE HIGHWAY DEPARTMENT

Prices - Zoo Buttress (Force Account basis)

By 19 Checked by ...., 19....... Backchecked by ...., 19..

Labor:

Foreman	403 Hr. @	$6.46	=	$2603.38
Driller	"	6.08	=	2450.24
Compressor Oper.	"	5.91	=	2381.73.
Chuck Tender	"	5.74	=	2313.22
Flatbed Trk. Oper.	"	6.32	=	2546.96
Powderman	"	6.08	=	2450.24
				$14,745.77 +20% = $17,694.92

Misc:

Powder 0.8#/CY x 60,500 = 48,400# x $0.22 = $10,648.00 +15% = $12,245.20

"42,870.38 ÷ 41,130 CY = $1.042 /Cu.Yd

Screening Buttress Rock -33,600 CY
(Contractor's expected production rate is 100 CY/Hr.)

Equipment:

Loader	Kolman	336 Hr.	@	$9.00	=	$3024.00
Screen Deck	48"	"	@	2.00	=	672.00
Truck	10CY	"	@	12.10	=	4065.60
Pickup	3/4 Ton	"	@	2.10	=	705.60
						$8467.20 +15% = $9,737.28

Labor:

Loader Op.	67 Hr.-OT 269 ST	@	$10.25 7.08	=	$686.75 1904.52
Foreman	" "	@	11.63 8.00	=	779.21 2152.00
Truck Dr.	" "	@	10.80 6.69	=	723.60 1799.61
					$8045.69 +20% = 9,654.83

$19,392.11

$19,392.11 ÷ 33,600 CY = $0.577 /CY

Job No.
Sheet 5 of Sheet

OREGON STATE HIGHWAY DEPARTMENT

Prices - Zoo Buttress (Force Account Basis)

19 Checked by 19 Backchecked by 19

Load, Haul, & Place 33,600 CY Buttress Rock & 7,530 CY Rock Emb.
(Contractor's estimated production rate is 100 CY/Hr.)

Equipment:

Loader	#966	411 Hrs.	@	$17.50	=	$7192.50
Dozer/Ripper	D-8	"	@	25.20	=	10357.20
Tractor	D-8	"	@	21.70	=	8918.70
Roller	VP9	"	@	5.00	=	2055.00
Blade	#12	205 Hrs.	@	12.10	=	2480.50
Trucks	10 CY	5484 "	@	12.10	=	66356.40

$97,360.30 +15% = $111,964.35

Labor:

Loader Opr.	82 Hr.-OT	@	$11.42 =	$936.44
	329 "-ST	@	7.87	2589.23
Dozer Opr.	82 "-OT	@	10.80	885.60
	329 "-ST	@	7.30	2401.70
Tractor Opr.	82 "-OT	@	10.80	885.60
	329 "-ST	@	7.30	2401.70
Blade Opr.	205 "-ST	@	7.27	1490.35
Truck Opr.	1097 "-OT	@	10.80	11847.60
	4387 "-ST	@	6.69	29349.03
Foreman	82 "-OT	@	12.00	984.00
	329 "-ST	@	8.24	2710.96

$56,482.21 +20% = $67,778.65

$179,743.00

$179,743.00 ÷ 41,130 CY = $4.370 /CY

Misc.:

Clear Quarry (1/2 Acre) $1,276.00
Preblast Survey 1,000.00

$2,276.00

$2,276.00 ÷ 41,130 CY = $0.055 /CY

Job No.
Sheet 5 of Sheets

OREGON STATE HIGHWAY DEPARTMENT

Prices - Zoo Buttress (Force Account Basis.)

19....... Checked by .... 19....... Backchecked by .... 19..

Load, Haul, & Place 33,600 CY Buttress Rock & 7,530 CY Rock Emb.
(Contractor's estimated production rate is 100 cy/Hr.)

Equipment:

Loader	#966	411 Hrs.	@	$17.50	=	$7192.50
Dozer/Ripper	D-8	"	@	25.20	=	10357.20
Tractor	D-8	"	@	21.70	=	8918.70
Roller	VP9	"	@	5.00	=	2055.00
Blade	#12	205 Hrs.	@	12.10	=	2480.50
Trucks	10 cy	5484 "	@	12.10	=	66356.40

$97,360.30 +15% = $111,964.35

Labor :

Loader Opr.	82 Hr.-OT	@	$11.42	=	$936.44
	329 "-ST	@	7.87		2589.23
Dozer Opr.	82 "-OT	@	10.80		885.60
	329 "-ST	@	7.30		2401.70
Tractor Opr.	82 "-OT	@	10.80		885.60
	329 "-ST	@	7.30		2401.70
Blade Opr.	205 "-ST	@	7.27		1490.35
Truck Opr.	1097 "-OT	@	10.80		11847.60
	4387 "-ST	@	6.69		29349.03
Foreman	82 "-OT	@	12.00		984.00
	329 "-ST	@	8.24		2710.96

$56,482.21 +20% = $67,778.65

$179,743.00

$179,743.00 ÷ 41,130 CY = $4.370 /CY

Misc. :

Clear Quarry (1/2 Acre)	$1,276.00
Preblast Survey	1,000.00
	$2,276.00

$2,276.00 ÷ 41,130 CY = $0.055 /CY

Job No. ......

Sheet 6 of ...... Sheets

OREGON STATE HIGHWAY DEPARTMENT

Prices - OMSI - ZOO Buttress (Force Account Basis)

19...... Checked by ......, 19...... Backchecked by ......, 19......

Summary -

Buttress Rock

Strip Quarry	(Sheet #3)	$0.120 /cy
Drill & Shoot	(" #4)	1.042 "
Screening	(" #4)	0.577 "
Load, Haul, & Place	(" #5)	4.370 "
Misc.	(" #5)	0.055 "
	Total	$6.164/cy

Rock Embankment

Strip Quarry	(Sheet #3)	$0.120 /cy
Drill & Shoot	(" #4)	1.042/cy
Load, Haul, & Place	(" #5)	4.370/cy
Misc.	(" #5)	0.055/cy
	Total	$5.587/cy

Job No. ....
Sheet ...7... of .... Sheets

OREGON STATE HIGHWAY DEPARTMENT

Calculations for Prices - OMSI-ZOO Buttress (Force Account Basis)

Made by .... 19.... Checked by .... 19........ Backchecked by .... 19....

Filter Blanket 6,960 CY Filter Material in single layer filter.

Contractor's estimated production rate is:
(1333 CY @ 95 CY/Hr for 14 Hr.
5627 CY @ 24 CY/Hr for 234 Hr.)

Equipment:

Loader	#966	248 Hr.	@	$17.50	=	$4340.00
Pickup	3/4 Ton	124 "	@	2.10	=	260.40
Tamper	"Wacker"	248 "	@	3.50	=	868.00
						$5468.40 +15% = $6288.66

Labor :

Foreman	25 Hr.-OT	@	$12.00	=	$ 300.00
	99 " -ST	@	8.24	=	815.76
Loader Opr.	50 " -OT	@	11.42	=	571.00
	198 " -ST	@	7.87	=	1558.26
Laborers	100 " -OT	@	8.61		861.00
	396 " -ST	@	5.93		2349.28
					$6454.30 +20% = $7745.16
					$14,033.82

$14,033.82 ÷ 6,960 cy = $2.016 /cy Placing Costs

Additional placing costs for two layer filter blanket.

Forms:

Equip:

Pickup	32 Hr.	@	$ 2.10	=	$67.20
Light Plant	32 Hr.	@	2.00	=	64.00
Flatbed	32 Hr.	@	2.40	=	76.80
					$208.00 + 15% = $239.20

Job No. ....
Sheet 8 of ...... Sheets

OREGON STATE HIGHWAY DEPARTMENT

Prices - OMSI-ZOO Buttress (Force Account Basis)

.... 19 ... Checked by ...., 19....... Backchecked by .... 19......

Filter Blanket (Addit. forming costs continued.)

Labor:

Foreman	32 Hr. @	$8.24	=	$263.68
Carpenter	32 Hr. @	6.79	=	217.28
Laborer	32 Hr. @	5.93	=	189.76
				$670.72 +20% = $804.86

Material:

Plywood	720 MBF	@	$155/M	= $111.60
H-Pile	300' or 15,900#	@	0.08/lb.	= 1272.00
Cable Bridles	30 Ea.	@	$20.00	= 600.00
Misc. (Bolts, Nuts, & Washers)				= 27.00
				$2010.60 + 15% = $2312.19
				$3,356.25

$3,356.25 ÷ 6,960 = $0.482 /CY

SUMMARY

	Single Layer Filter (1½"-0)	Double layer Filter 1½"-0	Double layer Filter Sand
Placing	$2.016 /cu.yd	2.016/cy	2.016/cy
Forming	-	0.482 "	0.482 "
Material		5.520 "	5.090
		$8.018 "	$7.588 "

Prices - OMSI - ZOO Buttress . (Force Account Basis)

A.C. in Paved Ditch Average Sp. Gr. of Aggr. 2.80

.00631 Ton/Sq.Ft. 1" Thick
.00631 × 9 = .05679 T/Sq.Yd. 1" Thick
.05679 × 2 = .11358 T/Sq.Yd. 2" Thick
1 Ton of AC will cover 8.8 Sq.Yd.
8.8 Sq.Yd × $3.50 = $30.80 Extra for AC Ditches
+ $6.60 /Ton for AC
$37.40 / Ton for AC in Paved Ditch for Cont. #7186

Contractor's price is $30.00 / Ton for buttress work

7/19/69 Quote

30 Sheets 4x8x3/4" EXT. Shop Plywood

North Coast Lumber (Jim) 141^{00} M Deld

Dwyer Lumber (Glen) 155^{00} M Deld

---

300 LF 12 BP 53 H Beams - 5 ft lengths

Woodbury & Co (Bert) 7.95 per Cwt Deld

Plus 1.20 for each cut

Pacific Steel Whse ~~[illegible]~~ None
(PAT)

N W Steel Const — ~~[illegible]~~
27.75 each Deld.

---

180 ½ x 2" Bolts
180 ½ Nuts
360 Washers ½"

Woodbury Bolt 8.30 per C less 35%.
Nuts 3.15 " " "
Washers 21¢ per lb (approx 13 lbs)

---

30 Bridles ½" fine strung & 2 hooks each, leg 5'
Pacific Wire Rope — 19.85 each deld

McCOY ELECTRIC CO. *Electrical Contractors*

GENERAL, INDUSTRIAL AND COMMERCIAL INSTALLATIONS

2002 S. E. CLINTON STREET • PHONE 234-7521
PORTLAND, OREGON 97202

March 12, 1970

Peter Kiewit Sons' Company
P. O. Box 25427
Portland, Oregon 97225

Gentlemen:

We submit the following bids on the Zoo buttress work on Canyon Road. The work involves relocating the temporary illumination near the zoo overpass.

Relocate three (3) poles and wiring on North side of Canyon Road - $3,597.00.

Relocate one (1) additional pole if necessary - $1,210.00

Yours truly,

MC COY ELECTRIC COMPANY

By John J. Kugler
John J. Kugler

JJK:hs

PETER KIEWIT SONS' CO.
CONTRACTORS
ESTABLISHED 1884

MAIN OFFICE: OMAHA, NEBR. 68131
1000 KIEWIT PLAZA

Job #4092-Vista
ADDRESS REPLY TO:
P.O. Box 25427
Portland, Oregon 97225

March 12,1970

Oregon State Highway Dept.
5821 N.E. Glisan St.
Portland, Oregon

Re: OSHD Contract #7186
Highlands Interchange-
Vista Ridge Tunnel Section
Vista Job #4092
Serial Letter J-26

Attention: Mr. Ernest Scrivner
Resident Engineer

Dear Sir:

Enclosed are quotes for:
Relocate Temporary Illumination
Type II Barricado

These quotes are applicable to the proposed Zoo Buttress work.

Very truly yours,

PETER KIEWIT SONS' CO.

Tom Callanan

Tom Callanan
Superintendent

CC Norm
Job
Enc.

PHONE 656-0601
135 EAST HEREFORD STREET

Coral Corporation
P. O. BOX 258
GLADSTONE, OREGON 97027

March 12, 1970

Mr. Tom Callanan
Peter Kiewit Sons' Co.
P.O. Box 1777
Vancouver, Washington

Reference: Highlands Ave. Interchange
Contract No. 7186

Dear Mr. Callanan:

As requested by you, we are pleased to quote you on the installation of 550 lineal feet Type II Barricade, including electrical, at $5.40 per lineal foot.

It is understood that the installation will be in the vicinity of the Zoo Interchange and reasonably close to a continuous power source.

Very truly yours,

G. L. Nylen nm

G. L. Nylen
Construction Manager

GLN:nm

A—Printed in U.S.A. 10/67

ITEM ANALYSIS

Project ZOO SLIDE
Description
Bid Quantity

Location
Estimator NM
Take Off Quantity

Checked By

Item No.
Sheet No. 1
Date 2-16-70

DESCRIPTION				QUANTITY	EQUIPMENT RENTAL				OPERATING EXPENSE						S T E
					CO. OWNED		OTHER		TIRES & TRACKS		EQUIP REPAIR		FUEL-OIL-GREASE		
NO.	EQUIPMENT	NO.	CREW		U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.
	Clear Quarry		-½ Acre			300									
2	STRIP Quarry			6750 cy	41	2768									01
3	DRILL & SHOOT		Assume 15% oversize	42,967	180	7734									196
4	LD, Haul, Place			37,363	2 13	79583									0 02
	Pre-Blast Survey														
						90 385									
			÷	37,363 cy	=										
										TO SCREEN OVER Koleman					
		To Screen		3"-0" over Koleman-											
		Assume 20 % reject -													
			D & S	7500 cy extra	180	1350									196
	Sht-5		Screen	37,363 cy	227	8481									010
				÷ 37,363											
															To
	TOTALS														

70

EXPENSE			SERVICES TOOLS & SUPPLIES		LABOR EXPENSE				SUBTOTAL		PERMANENT MATERIALS		SUB CONTRACTS		TOTAL DIRECT COST	
PAIR	FUEL-OIL-GREASE				WAGES		ADD-ONS									
TAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL
				100		700		176		1276						
			01	67	27	1823	07	472	76	5130						
			196	8421	232	9968	058	2492	666	28 615						
			0^{02}	747	1^{36}	50 814	0^{34}	12 703	3^{85}	143,848						
				1000						1000						
				10 335		63 305		15 843		179,868						
										4^{81}						
										w/20% Markup	Pit Run – Allow				$ 5^{77}	
											We will do it for the $ 5^{60} quoted					
OVER	Koleman Loader w/single Deck Screen –															
			196	1470	232	1740	058	435	666	4995						
			010	374	223	8332	056	2092	516	19 279						
										24,274						
										0^{65}						
			Total Direct Cost over Screen = $4^{81} + 0^{65} = 5^{46}$													
											with Profit =				$ 6^{55}	

ITEM WORK SHEET

Project: ZOO SLIDE
Estimator: NM
Item No.
Type of Work: STRIP QUARRY
Date: 2-16-70
Checked By:
Sheet No. 2

DESCRIPTION		QUANTITY				EQUIPMENT RENTAL				SMALL TOOLS		LABOR		TOTAL	
						CO-OWNED		OTHER							
No.	EQUIPMENT	No.	CREW			UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL
1	Pickup	1	4-man				1.20						7.18		
1	966	1	oper				14.00						6.83		
2	Local Trucks	2	Teamsters			10-	20.00					6.23	12.46		
1	[illegible]	1	oper				20.20						6.83		
Totals							55.90				75		33.30		
Hours per week							×50				.1		×55		
Cost per week							2795				75		1832		4702
Unit Cost 6750 cy/wk							41				01		27		69

Analysis 150 cy/Hr × 45 Hr/wk = 6750 cy/wk

Plan Quantity

Take-off Quantity strip 8' deep 100 × 200 area = 5925 cy stripping

PIONEER PTG. 88

ITEM WORK SHEET

Project ZOO SLIDE Estimator A/M Item No.

Type of Work DRILL & SHOOT Date 2-16-70 Checked By Sheet No. 3

DESCRIPTION		QUANTITY				EQUIPMENT RENTAL				SMALL TOOLS		LABOR		TOTAL	
						CO-OWNED		OTHER							
No.	EQUIPMENT	No.	CREW			UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL
1	Pickup	1	4-man				1^{20}						6^{00}		
1	C475 Drill	1	Driller				10^{32}						5^{65}		
1	600 Compressor	1	Compressor Operator				13^{20}						6^{35}		
		1	Chuck-Tender										5^{35}		
1	Flatbed	1	Teamster				1^{90}						5^{93}		
		1	Powderman										5^{65}		
Totals							27^{12}						34^{93}		
Hours per week							× 40				0^{02}/cy Bits, steel cplngs.		× 40		
Cost per week							1085				0^{176}/cy Explosives		1397		
Unit Cost ÷ 6012 cy/wk							180				0^{196}		232		608

Analysis Drill 45 LF/Hr × 3^{34} CY/LF × 40 Hr/wk = 6012 CY/wk

Plan Quantity

Take-off Quantity Use 3" Bits – Allow 0^{02} ¢/cy for Bits, steel, cplngs, etc.

Shoot @ 0^{8} lb/cy × 0^{22} ¢/lb for Explosives = $ 0^{176}/cy for Explosives

PIONEER PTG. 9M

Form 425 Rev. 2/67

ITEM WORK SHEET

Project Zoo Slide Estimator MM Item No.

Type of Work Load, Haul, Dump Date 2-16-70 Checked By Sheet No. 4

DESCRIPTION		QUANTITY				EQUIPMENT RENTAL				SMALL TOOLS		LABOR		TOTAL	
						CO-OWNED		OTHER							
No.	EQUIPMENT	No.	CREW			UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL
1	Pickup	1	1-man				1^{70}						7^{78}		
1	966 Loader	1	oper				14^{00}						6^{83}		
1	D8 w/Ripper	1	oper				27^{00}						6^{83}		
1	D8 w/VP9 Roller	1	oper				25^{00}						6^{83}		
		1	Grade Checker										5^{40}		
½	Motor Patrol	½	Oper			11^{10}	5^{55}					6^{95}	3^{47}		
14	Haul Trucks	14	Teamsters			10^{00}	140-					6^{23}	87^{22}		
Totals							213^{25}				100		123^{76}		
Hours per week							× 50				× 1		× 55		
Cost per week							10663				100		6807		17570
Unit Cost ÷ 5000 CY/wk							2^{13}				0^{02}		1^{36}		3^{51}

Analysis 100 CY/Hr × 50 Hr/wk = 5000 CY/wk

Plan Quantity

Take-off Quantity

Haul units - 1 Hr cycle @ 7½ CY/LD

PIONEER PTG. 68

ITEM WORK SHEET

Project ZOO. Slide

Estimator MM

Item No.

Type of Work Koleman Screen

Date 3-9-70

Checked By

Sheet No. 5

DESCRIPTION		QUANTITY				EQUIPMENT RENTAL				SMALL TOOLS		LABOR		TOTAL	
						CO-OWNED		OTHER							
No.	EQUIPMENT	No.	CREW			UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL
1	[illegible]	1	4-man				1.70						7.18		
1	48" Koleman [illegible]	1	Oper				9.00						6.23		
1	Screen [illegible] Koleman						2.00				1.00				
1	[illegible]	1	Driver				10.00						6.23		
Totals							22.70				1.00		20.24		
Hours per week							×50				×50		×55		
Cost per week							1135				50		1113		
Unit Cost 5000 CY/wk							227				.010		223		960

Analysis 50 Hr/wk × 100 CY/Hr = 5000 CY/wk

Plan Quantity

Take-off Quantity

PIONEER PLA. 5U

Form-147 —Printed in U.S.A. 2-68

ITEM ANALYSIS

Project	Zoo [illegible] Acres	Location		Item No.	1
Description	Gen Exc - Unclass	Estimator		Sheet No.	I
Bid Quantity		Checked By		Date	1-11-80

DESCRIPTION						EQUIPMENT RENTAL				OPERATING EXPENSE					
						CO. OWNED		OTHER		TIRES&TRACKS		EQUIP REPAIR		UEL-OIL-C	
NO.	EQUIPMENT	NO.	CREW.			U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	T
	GEN EXC - UNCLASS														
	LD, DUMP			39600	cy	58	22968								
	HAUL - STAGE VI			15000	cy										
	HAUL - WASTE			24600	cy			61	15.006						
	Pumping			L.S.			1000		2200						
	Misc			L.S.			4600		—						
?	Temp Drainage		(1400)												
	Mats		(1300)												
	Clean up Work Area		(1600)												
*	PKS Lighting		(3200)												
	TOTALS						28568		17,206						
	HOURS PER WEEK														
	COST PER WEEK														
	UNIT COST		/39600 cy				72		43						

Analysis

Plan Quantity

Take Off Quantity

Fringes — 22% of Labor

EXPENSE			SERVICES TOOLS & SUPPLIES		LABOR EXPENSE				SUBTOTAL		PERMANENT MATERIALS		SUB CONTRACTS		TOTAL DIRECT COST	
AIR	FUEL-OIL-GREASE				WAGES		ADD-ONS									
AL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL
			$\underline{01}$	396	$\underline{42}$	16,632	$\underline{09}$	3.564	$1^{\underline{10}}$	43.560						
			$\underline{01}$	246	$\underline{44}$	10,824	$\underline{10}$	2.460	$1^{\underline{16}}$	28.536						
						1000		220 –		4,420						
				700		2200		484 –		7.984						
				1342		30.656		6728		84.500 ✓						
				$\underline{03}$		$\underline{78}$		$\underline{17}$		$2^{\underline{13}}$						

Reduce Misc to $0 : = Σ $ 76.516 / 39.600 cy = 1$^{\underline{93}}$ /cy

But need $ to build boom etc with [illegible] until ?

Prem. time: 39600 cy/4750 cy/wk = 8⅓ wks

Require 17 wks –

Form 425 Rev. 2/69

ITEM WORK SHEET

Project________ Estimator T.C. Item No. 1

Type of Work Gr[illegible] - Haul Date 1-16-70 Checked By________ Sheet No. (2)

DESCRIPTION		QUANTITY				EQUIPMENT RENTAL				SMALL TOOLS		LABOR		TOTAL	
						CO-OWNED		OTHER							
No.	EQUIPMENT	No.	CREW			UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL
	Stage	VI	Haul		15,000 cy										
3	Trucks	3	Tmstr				No charge								
	Waste		Haul		24,600 cy										
6	Trucks	6	Tmstr					9^{70}	58^{20}			6^{23}	37^{38}		95^{58}
											1^{00}				1^{00}
Totals									58^{20}		1^{00}		37^{38}		96^{53}
Hours per week			x50						x50		x50		x55		x(53E + 5L)
Cost per week									2910 –		50 –		2056 –		5016 –
Unit Cost			/4750 cy					.61		.01		.44		1^{06}	

Analysis 950 cy / 10 hr-shift x 5 = 4750 cy/week

Plan Quantity 39,600 cy

Take-off Quantity

Haul to Stage VI - 15,000 cy

Sta 48 to 88 - 14,900 cy

Assume Stage V open to traffic

haul up & down w/ traffic

Avg. haul 75 → 95 = 2000'

LD, Dump = 4 min ∴ 4 trips/hr x 8 cy/trip = 32 cy/hr

Haul = 11 min

15 min/cycle

[illegible] 100 cy/hr / [illegible] 2' T[illegible]

Haul to Waste - 24,600 cy

Haul to Cemetery or [illegible]

Tke Mercer [illegible]

100 cy/hr / [illegible] = 6^{25} Trucks [illegible] Trucks

94 cy/hr / [illegible] = 5^{88} [illegible] = 6 Trucks

PIONEER PTG. SM

Form 425 Rev. 2/69

ITEM WORK SHEET

Project [illegible] Estimator [illegible] Item No. 1

Type of Work [illegible] Exc - Ld. Dump Date 1-[illegible]-70 Checked By Sheet No. 1

DESCRIPTION		QUANTITY				EQUIPMENT RENTAL				SMALL TOOLS		LABOR		TOTAL	
						CO-OWNED		OTHER							
No.	EQUIPMENT	No.	CREW			UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL
1	P/u	1	f-man				1.20						7.50		[illegible]
1	NWC	1	opt				26.10						7.05		33.15
1	2cy-sct	1	oiler				INCIDENTAL						6.10		6.10
		1	S/Hou										5.60		5.60
1/4	D-8-Ripper	1/4	opt			27.00	6.75					6.83	1.70		8.45
1	D-8 on Dump	1	opt				20.20						6.83		27.03
											1.00				1.00
	Premium time														
	Maint Crew												1.39		1.39
Totals							34.75				1.00		36.17		71.92
Hours per week							x50				x50		x 55		x(50E+5L)
Cost per week							2737 —				50 —		1990 —		4777 ✓
Unit Cost		/4750cy				58				01		42		101	

Analysis 95cy/hr x 50 hr = 4750 cy/wk

Plan Quantity 37,600 cy

Take-off Quantity [illegible]

Take all muck with 0 time [illegible]

Cater #12 sloping & cleaning up 25% of time

Prod = 100 cy/hr 750 cy/shift Premium time [illegible]

Cat 100% of time on dump

Ld. Dump - [illegible]

Haul - 15,000 cy to slope [illegible]

24,600 cy to waste

PIONEER PTG. SM

Form 4:5 Rev. 2/69

ITEM WORK SHEET

Project [illegible] Estimator TC Item No. 1

Type of Work [illegible] / Exc. Misc. Date 1-17-70 Checked By Sheet No. 3

DESCRIPTION		QUANTITY				EQUIPMENT RENTAL				SMALL TOOLS		LABOR		TOTAL	
						CO-OWNED		OTHER							
No.	EQUIPMENT	No.	CREW			UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL
	Misc.														
	Temp Drainage						400-				400-		600-		1400-
	Planking for Dikes						200				300		800		1300-
	Clean up Camp Area						800						800		1600-
	Lighting -						3200-								3200
2	Pumps - 4"	-	10 wks				1000-		2200-				1000-		4200.-
Totals			L.S.				2400		2200		700		3200		8500-
Hours per week							3200								3200
Cost per week							5600		2200		700		3200		11700-

Unit Cost

Analysis

Plan Quantity

Take-off Quantity

Need Temp Drainage - 200' - 12" pipe @ 1.50/LF = 300.00 + 5 man hrs [illegible] (25.00/hr x 8 x 5' = 1000.00

Need Planks for Dikes - 1000.00

Final Clean-up - 1 D8 + 1 opr + 4 man - 200.00/hr x 8 hrs = $1600

2 - 4" pumps @ 4.00/hr incl suct, discharge = 8.00/hr x 40 = 320.00/wk x 10 wk = 3200.00

Light Plants - 3 ea for 3 months

3 x 1.60/hr x 10 hr/day = 48.00/day x 66 day = 3168.00

PIONEER PTG. SM

Form 147-A- Printed in U.S.A. 10/67

ITEM ANALYSIS

Project [illegible]
Description 1½" Filter
Bid Quantity

Location
Estimator TC
Take Off Quantity 3382

Checked By

Item No. 4
Sheet No. 1
Date [illegible]

DESCRIPTION				QUANTITY	EQUIPMENT RENTAL				OPERATING EXPE			
					CO. OWNED		OTHER		TIRES&TRACKS		EQUIP REPAIR	
NO.	EQUIPMENT	NO.	CREW		U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL
	1½" - Filter Mtl			3382 cy								
	Purchase, Load, Haul			3382 cy								
	Place - on Floor of Exc			1333 cy	55	733						
	Place - on Slope of Exc			2049 cy	79	1619						
	Slope Forms			L.S.								
	Purchase											
	Fab -			480 S.F.	35	168						
						2520 -						
					75							
	TOTALS											

ENSE		SERVICES TOOLS & SUPPLIES		LABOR EXPENSE				SUBTOTAL		PERMANENT MATERIALS		SUB CONTRACTS		TOTAL DIRECT COST	
UEL-OIL-GREASE				WAGES		ADD-ONS									
U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL	U.P.	TOTAL
										4^{79}	16,200				
		01	13	24	320	05	67	85	1133						
				98	2008	22	451	1^{99}	4078						
			2010						2010						
		13	62	1^{25}	600	28	135	2^{01}	965						
			2085		2928		653		8186						
		62		86		19		2^{42}		4^{79}	16,200			7^{21}	

Form 425 Rev. 2/69

ITEM WORK SHEET

Project [illegible] Estimator TL Item No. 4
Type of Work 1½" Filter - Place on Floor Date 1-19-70 Checked By Sheet No. 1

DESCRIPTION		QUANTITY				EQUIPMENT RENTAL				SMALL TOOLS		LABOR		TOTAL	
						CO-OWNED		OTHER							
No.	EQUIPMENT	No.	CREW			UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL
	Same		Grad as		place	1½" Quarry Rock									
Totals															
Hours per week															
Cost per week															
Unit Cost						55				01		24		80	

Analysis 95 cy/HR - 10 HR DAY

Plan Quantity

Take-off Quantity 1333 cy

Assume 30' x 2' x 600' /27 = 1333 cy

PIONEER PTG. SB

Form 425 Rev. 2/69

ITEM WORK SHEET

Project Zoo Buttress Estimator TL Item No. 4

Type of Work 1½" Filler – Place on Floor Date 1-19-70 Checked By Sheet No. 1

DESCRIPTION		QUANTITY				EQUIPMENT RENTAL				SMALL TOOLS		LABOR		TOTAL	
						CO-OWNED		OTHER							
No.	EQUIPMENT	No.	CREW			UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL
	Same		Cut as place			14" Quarry Rock									
Totals															
Hours per week															
Cost per week															
Unit Cost						55				01		24		80	

Analysis 95 cy/HR – 10 HR DAY

Plan Quantity

Take-off Quantity 1333 cy

Assume 30' x 2' x 600' /27 = 1333 cy

PIONEER PTG. 84

Form 425 Rev. 2, 69

ITEM WORK SHEET

Project [illegible] Estimator TC Item No. 1

Type of Work 1½" - Place on Slopes Date 1-19-70 Checked By Sheet No. 2

DESCRIPTION		QUANTITY				EQUIPMENT RENTAL				SMALL TOOLS		LABOR		TOTAL	
						CO-OWNED		OTHER							
No.	EQUIPMENT	No.	CREW		P/MTL	UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL
1/2	P/U	1/2	Foreman		.	1^{70}	0^{85}					7^{33}	[illegible]		[illegible]
1	966	1	opt				14^{00}						$6^{[illegible]}$		[illegible]
1	Wacker	1	PTO				4^{00}						[illegible]		[illegible]
		1	G/[illegible]										[illegible]		[illegible]
	Purchase Sand & 1½"														
	Furnish Form Mat'l														
Totals							18^{85}						21^{48}		40^{33}
Hours per week							x50						x55		[illegible]
Cost per week							942 —						1182 —		2124
Unit Cost		/1200cy				.79						.95		1^{77}	

Analysis 24 cy/HR x 10 = 240 cy/day x 5 = 1200 cy/wk

Plan Quantity 3382 cy Assume 30 x 2 x 600 /27 = 1333 cy on floor of [illegible]

Take-off Quantity 2049 cy 2049 cy ~ slope of [illegible]

Need to build forms to hold material in 1:1 slope

Need to set panels on line & grade ~ 100' at a time Use 966 + Boom to [illegible]

Need to b/fill panels & tamp mat'l 966 rent = [illegible]

Need to slide panels up slope

Note: Require 15± cy / Foot of depth / 100' of slope b/filled with form 4' on hypotenuse

Prod = 24 cy/HR

Opt. the more forms, while the lab. b/fill

PIONEER PTG. SR

ITEM WORK SHEET

Project [illegible] Estimator TL Item No. 4
Type of Work [illegible] - Fab Forms Date 1- 19-70 Checked By Sheet No. 3

DESCRIPTION		QUANTITY				EQUIPMENT RENTAL				SMALL TOOLS		LABOR		TOTAL	
						CO-OWNED		OTHER							
No.	EQUIPMENT	No.	CREW			UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL	UP	TOTAL
1	P/u	1	4 man				1 70						7 50		9 20
1	F/B	1	Lbr				1 90						4 80		6 70
1	[illegible]	1	Carp				1 60						6 50		8 10
											2 00				2 00
Totals							5 20				2 —		18 80		26 —
Hours per week			32				32				32		32		32
Cost per week			L.S				166 —				64 —		602 —		832 —
Unit Cost			/480 SF.			35				13		1 25		1 73	

Analysis

Plan Quantity

Take-off Quantity

Build 15 Forms — 4 /Day — 4 Days

4x8 - 32 SF x 15 = 480 SF

PIONEER PTG. 8M

Need forms for holding sand on slope, also base rock
Will need 150' of form for each lift — say 100' of form [illegible] on each lift
Use 4 x 8 sheets 3/4" plywood
Use 12 BP53 - H Beam in 5' lengths - 2 on each 4x8 sheet
Use 6 bolts, nuts each sheet to hold to H beam
Use Bridle to pull form up slope + eyes & shackles

4 x 8 sheets:
Need 13/100' — say 15/120' ∴ need 15 sheets/lift need 30 sheets
Need 10' of 12BP53 / form — need 150'/lift need 300' [illegible]
Need 6 ea bolts, nuts, etc / form ∴ need 90 bolts nuts/lift need 180 [illegible]
Need 1 bridle + shackle(s)/form ∴ need 15 bridle + 30 shackles/lift need 30 bridles [illegible]

Cost:
30 sheets - 4 x 8 x 3/4" exterior plywood = 24 BF
300 L.F 12 BP53 - H Beam - 5' lengths (used or new)
180 bolts 1/2" x 2"
180 nuts 1/2"
360 washer 1/2
30 Bridles 1/2" line + ring + 2 hooks — each leg 5' long

Plywood	@ 720 MBF c/a $155/M	112.00
H beam	300' x 53 #/ft = 15,900 # @ .08 $/#	1272.00
bolts		17.00
nuts		7.00
washer		3.00
Bridle	30 @ $20.00 each	600.00
		2011.00

RECEIVED
MAR 12 1970
FOR FILING
26-1181
7186

March 11, 1970

Oregon State Highway Commission

Gentlemen:

In 1961, correspondence commenced with West Slope Water District with respect to the relocation of its water main in Jefferson County Road, if and when the State Highway Commission determined to build the Vista Ridge Tunnel and widen and improve the Canyon Road Section of the Sunset Highway.

On August 10, 1965, bids were called for on the Vista Ridge Tunnel Section of the Sunset Highway, and West Slope Water District was requested to relocate portions of its water main which conflicted with our construction requirements. In addition to widening and improving the Canyon Road Section west of the Vista Ridge Tunnels, it would be necessary to cover portions of the District's 12-inch water main with 30 to 40 feet of fill.

Many conferences were held concerning who should be responsible for the cost of relocating the District's line. It was determined by the District that it could not relocate in Jefferson or Canyon Road but instead would have to seek a new source for its water supply. It was agreed the District would initially bear the cost of relocation and if after completion it were of the opinion the State legally owed the District for its costs, the District could then sue the Commission.

By May 6, 1966, the District had relocated and adopted a new line which extended from Portland's Arlington reservoir tank to the West Slope reservoir. This replaced the District's 12-inch line which ran along Jefferson County Road under a County permit. The cost of relocation to the District was approximately $92,000.

The legal question as to whether the State or District was liable was resolved by the Oregon Supreme Court in the case of State Highway vs. Clackamas Water District on June 2, 1967. The Court held that water districts located in county roads, under a permit from the county, were required to relocate at their sole cost when such relocation was required by the State Highway Commission.

In 1967, the legislature enacted Chapter 272, Oregon Law 1967, which became effective on September 13, 1967, providing that whenever a water district's facilities were required to be relocated by the State Highway Commission, unless located in a state highway under a state highway permit, the Commission must pay the cost of relocation. After the above chapter became law, we were still reconstructing the Canyon Road Section and we buried approximately 700 or more feet of the District's 12-inch pipe under 30 to 40 feet of fill.

Based on the work completed after the 1967 law, the District made a claim against the Commission in the sum of $3,502.35 for the salvage value of the pipe that was covered. We gave the District the opportunity to remove its pipe, but the actual cost of removal for relocation purposes would have exceeded the depreciated value of the pipe left in place.

During the course of our work on the Canyon Road Section, the Highway Division incurred $335.16 in expenses involving the District's pipeline. Deducting this out-of-pocket amount from the District's claim of $3,502.35 reduces the claim to $3,167.19.

It is recommended that the Commission pay this sum for a full and complete release of all claims and damages by the West Slope Water District against the State Highway Commission for the relocation of its facility.

This matter will be on the agenda of the March 17 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
F. B. Klaboe
V. D. Wolfe
V. E. Skoog
F. D. Morgan   D. J. Barbee
L. I. Lindas   A. E. Johnson
L. H. Young   L. W. Rulien

FCMcK:ks sr

ECEIVE
MAR 9 - 1970
FOR FILING

**OREGON STATE
HIGHWAY DIVISION**

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

36-1181

156

March 6, 1970

Mr. Robert L. Recken
Attorney at Law
Public Service Building
Portland, Oregon 97204

Re: West Slope Water District

Dear Bob:

In compliance with our correspondence (beginning with your letter of September 3, 1969) and our various telephone conversations, I have now been advised by our administrators that they are willing to recommend to the State Highway Commission a settlement of the West Slope Water District's claim for a utility relocation based on ORS 366.321.

In your letter of September 3, 1969, you requested that the Commission pay your client the sum of $3,557.60 for a utility relocation. In checking your computation, this figure should have been $3,580.18. This figure was based on the depreciated value of approximately 700 feet of 12" pipe owned by the District which is presently buried under some 30 to 40 feet of fill placed during our relocation of the Canyon Road portion of the Sunset Highway. This figure was based on the depreciated value of the pipe, plus a 15% overhead which included legal fees. You subsequently removed the legal fees from the overhead, and, by your letter of February 2, 1970, reduced the overhead to 12-1/2%.

You will recall that during the construction your client initially requested us to reconnect your existing 12" pipe after construction. As a result the Highway Division expended considerable time, effort and money to purchase the necessary supplies for such reconnection. After these supplies were purchased you then requested that the pipe not be reconnected.

Some of the material purchased has been used by the Division and some returned to the manufacturers, who, of course, repurchased the supplies at a reduced value. There are, however, still in stock in our Sylvan maintenance yard two 12-3/8" O.D. - 45° elbows and one 12-3/8" O.D. - 22-1/2° elbow. We have no use for this material. Including the above and other items, the State is out out of pocket the sum of $335.16 for losses it incurred in reselling what we could not use.

Based on the understanding the District would give the State Highway Commission a full and complete release from all claims on this project, including its claim for any relocation, our administrators are willing to recommend the Commission pay the sum of $3,167.19. This figure is computed by adjusting Carl Green's estimate to take into account the reduction in overhead (as set forth in your letter of September 3, 1969) which would place the salvage value of the pipe at $3,502.35. From this figure we subtracted the $335.16 the State is out of pocket. This amounts to the above mentioned sum of $3,167.19. If you desire to have the elbows you may obtain them upon notice to me of that effect.

If this sum is acceptable as a full and complete release for all claims, including any relocation claim, on this project, please advise immediately so that the proposed settlement can be brought to the attention of the Highway Commission at its regular meeting on March 17.

Yours very truly,

L. I. LINDAS
Chief Counsel

By

FRANK C. McKINNEY
Assistant Counsel

FCMcK:ks

cc: F. B. Klaboe
A. E. Johnson

RECEIVED
MAR 6 1970
OFFICE OF
STATE HIGHWAY ENGINEER

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APR 2 1970
FOR FILING

26-1181
7186

Salem, Oregon
February 24, 1970

Retaining Walls
Vista Ridge Tunnel-
Highlands Interchange
Sunset Freeway

A. E. Johnson
Metropolitan Engineer

Reference is made to Mr. Versteeg's February 16 letter to Mr. Morgan and Mr. Merchant re the above.

I am not a devotee of bush hammering. I would approve sandblasting to some pattern which you should prepare and submit for approval. Recall, however, that this job is under the supervision of the Construction Division.

Tom Edwards
Assistant State Highway Engineer

TE:ja

cc Forrest Cooper
R. L. Porter
Victor D. Wolfe
F. B. Klaboe
F. D. Morgan
Ivan Merchant
D. J. Barbee

FORM E-30 (12-67)

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213

February 16, 1970

SUBJECT: Retaining Walls
Vista Ridge Tunnel-
Highlands Interchange
Sunset Freeway
Prefix: 26-1181-900

To: ~~Mr.~~ F. D. Morgan
Ivan D. Merchant
State Highway Building
Salem

The concrete retaining walls on the S. W. Canyon Road project were constructed without any paneling or texturing treatment. This oversight should be reviewed with consideration given to texturing these walls by either sandblasting or bush hammering.

Submitted are several pictures showing wall treatment on the Stadium project and the untreated walls on the S. W. Canyon Road project. Also included are cost estimates for treating the three upper wall on Canyon Road by either bush hammering or sandblasting. These cost estimates were prepared from experience on the Stadium project and appear too low.

It is recommended that bush hammering of the retaining wall at station 87, 93 and 95 be seriously considered. It appears this work could be done for approximately $3,000 depending on how much texturing was considered desirable.

A. E. Johnson
Metropolitan Engineer

By:

J H Versteeg

J. H. Versteeg
Assistant Metropolitan Engineer

RECEIVED
FEB 13 1970
OFFICE OF
STATE HIGHWAY ENGINEER

JHV:pb

Enc

cc: F. B. Klaboe
Tom Edwards
D. J. Barbee

Routing

I Morgan MM
Decker
Bond
Walker
Boehme
Johnson

Pease
Swan
Glenn
Litchfield
Gallagher
Stern

RECEIVED
FEB 17 1970
CONSTRUCTION
DIVISION

FORM 2-30 50M 10-68

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE
Portland, Oregon 97213
January 23, 1970

SUBJECT: Highlands Interchange -
Vista Ridge Tunnel
Contract No. 7186

To: Mr. A. E. Johnson
Metropolitan Engineer
OFFICE

Attn: Mr. E. L. Hardt

Attached is a copy of an estimate for texturing the 3 new retaining walls constructed in Canyon Rd.

Unit costs used for bushing and sandblasting are those determined by John Howard on the Johnson - Mongomery contract.

Estimated costs for texturing 40% of the wall area is $2,200 for bushing and $1,000 for sandblasting.

The walls will have to be repainted if partially sandblasted, in order to have a neat line between the painted and textured sections. It is felt that the costs could vary depending on the texturing pattern used.

Harry W. Oswald
Harry W. Oswald
Resident Bridge Engineer

METROPOLITAN ENGINEER
RECEIVED
JAN 23 1970
☐ ME ☐ AME ☐ AME ☐ MOE ☐ MCE MTE

Form [illegible]

Job No. 7186
Sheet 1 of 1 Sheets

OREGON STATE HIGHWAY DEPARTMENT

Calculations for Texturing Walls 9856, 9856A & 9912
Made by Oswald 1-23 1970 Checked by ...., 19...... Backchecked by ...., 19

Unknown texturing pattern assume 40% area
Estimated cost: 80¢/sq ft to bush 25¢/sq ft to sand blast
sand blasting would require repainting Est Cost 5¢/sq ft.

Wall Area = 6,000 sq ft

Safeway scaffold for work
Estimated Cost $200

Area to be textured = 6000 (40%) = 2500 sq ft
" " " repainted = 6000 (60%) = 3500 sq ft

Estimated Cost to Bush

Bush = 2500 (80¢) = $2000
Scaffold 200
$2200 ← Cost to Bush

Estimated Cost to sand Blast

Blast = 2500 (25¢) = $625
repaint = 3500 (5¢) = 175
Scaffold = 200
$1000 ← Cost to Sand Blast

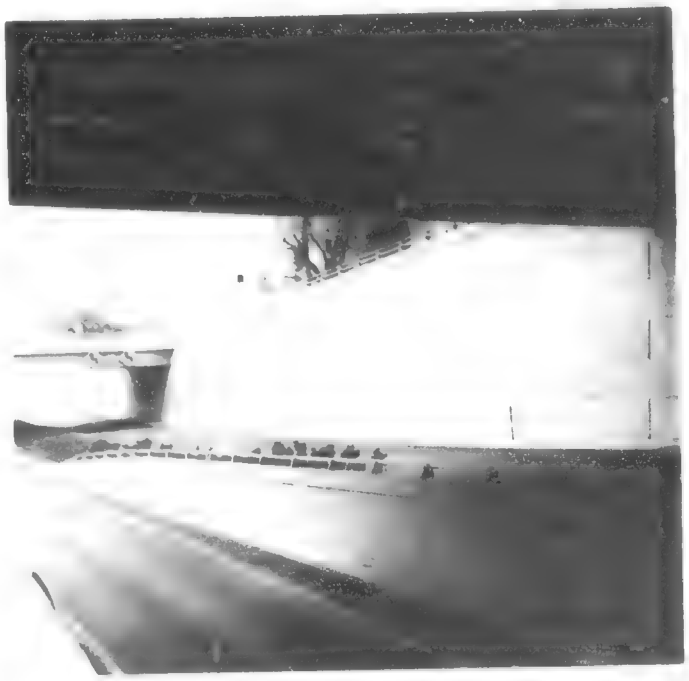
1. Retaining wall at N. W. 16th and Johnson St.

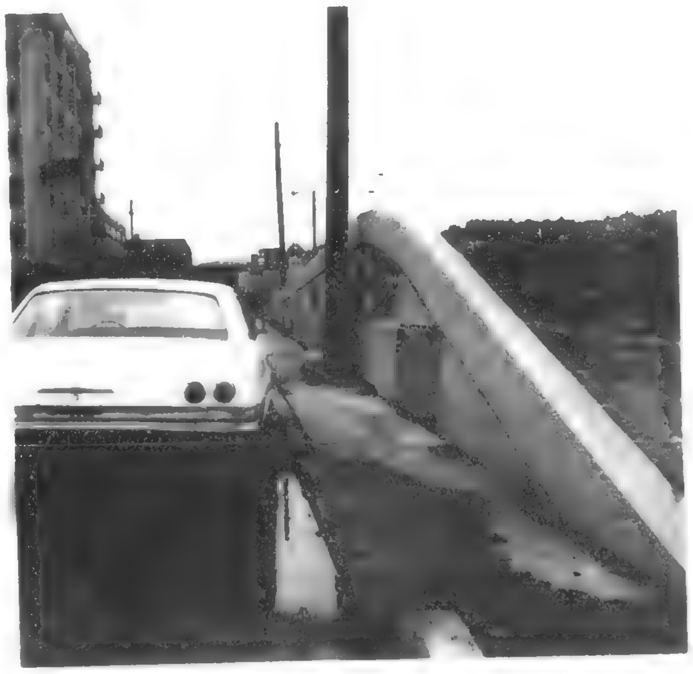
2. Retaining wall at N. W. 16th and Johnson St.

3. Retaining wall on west side of Stadium Freeway between Salmon St. and Jefferson St.

Sheet No. 2

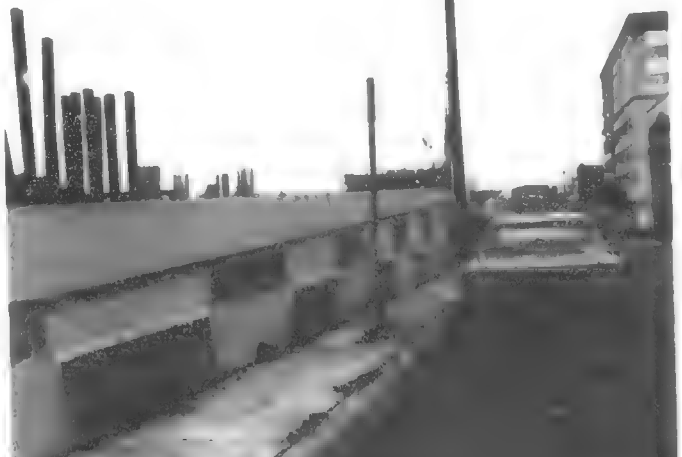
1. Retaining wall on east side of Stadium
Freeway at Columbia St.





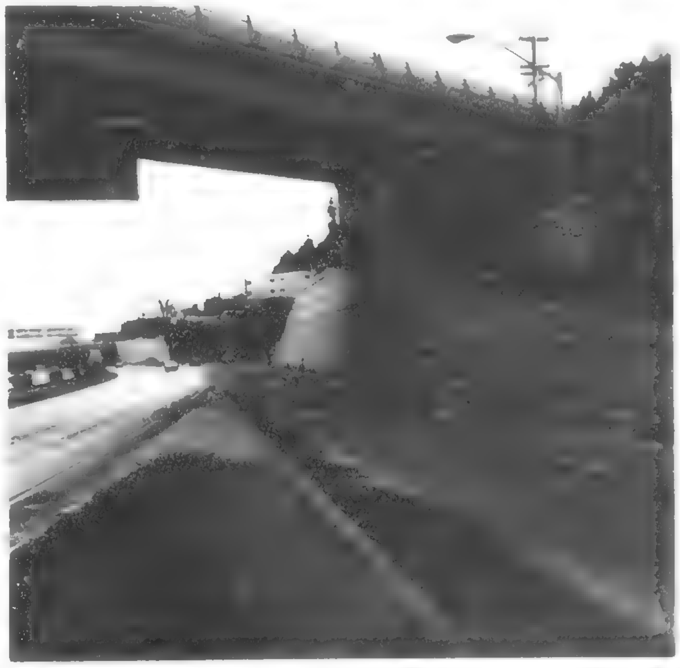
2. Retaining wall at N. W. 19th and
Johnson St.

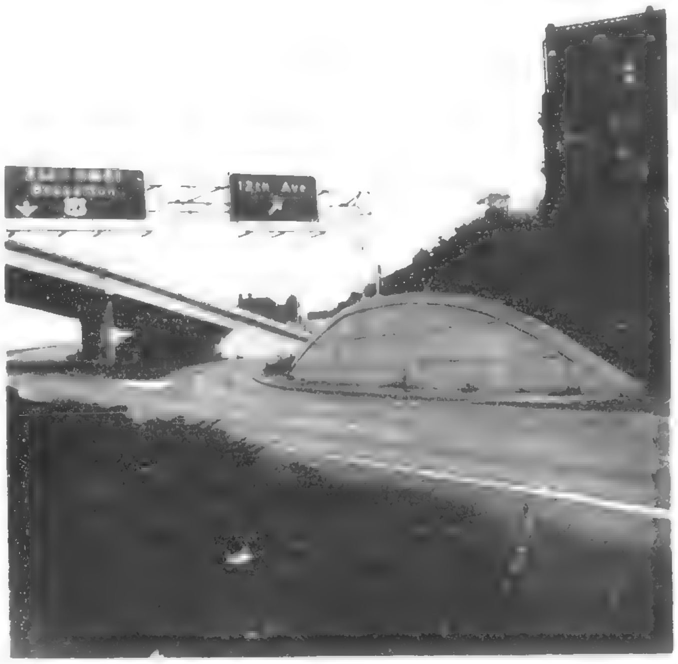
3. Retaining wall at N. W. 19th and
Johnson St.



Sheet No. 3

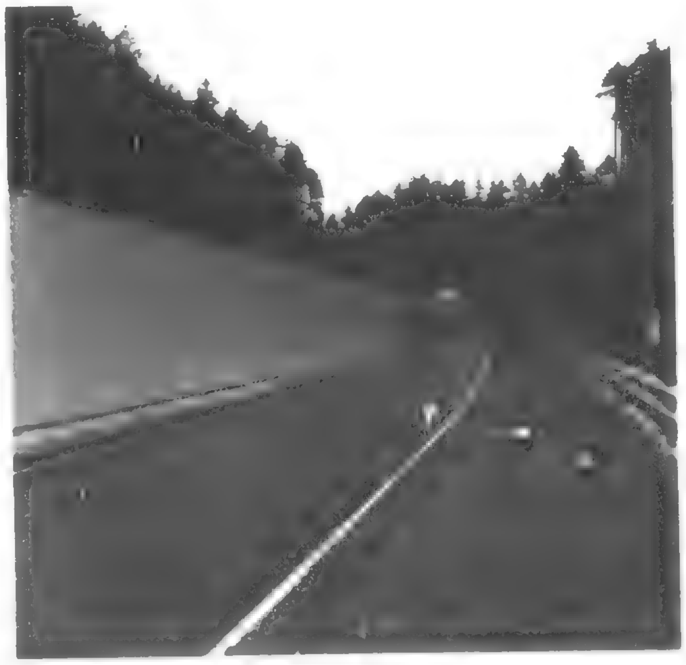
1. Retaining wall [illegible] of Stadium Freeway at 12th Ave.




Beaverton
12th Ave

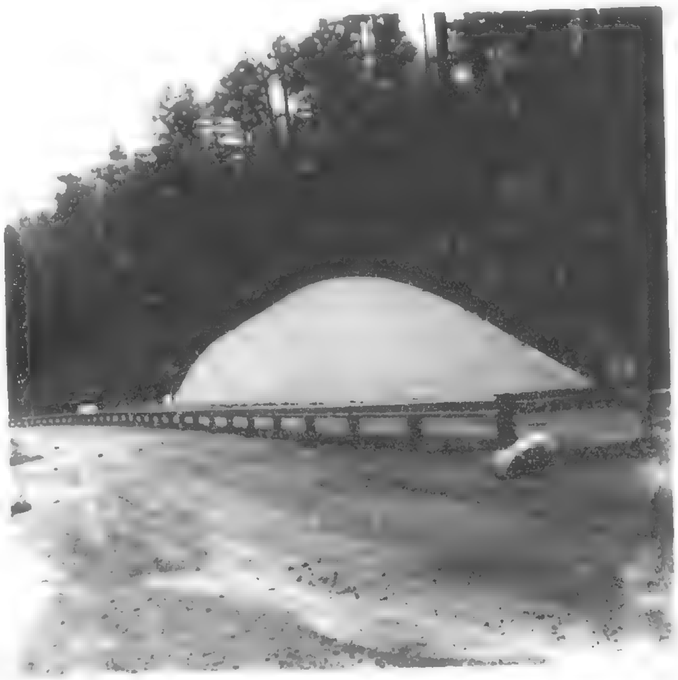
2. Retaining wall on North side of Stadium Freeway at 12th Ave.

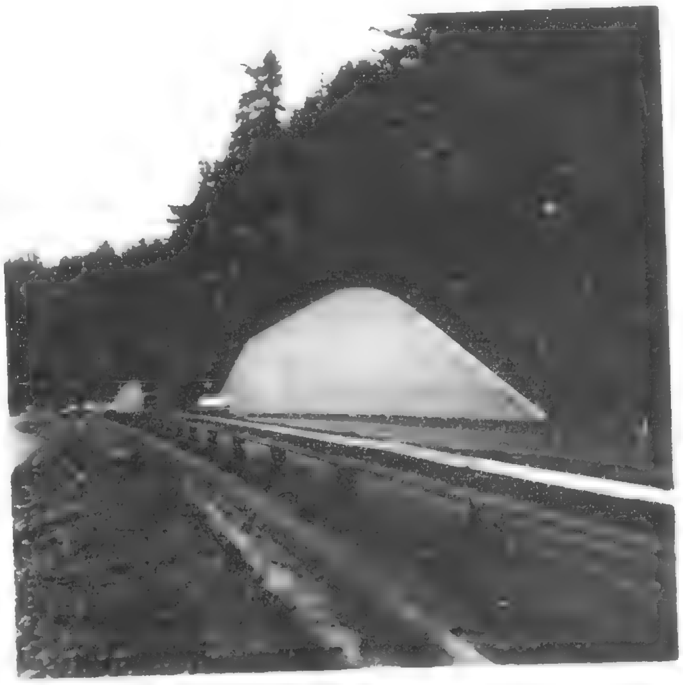
3. Retaining wall [illegible], [illegible] [illegible].



Sheet No. 4

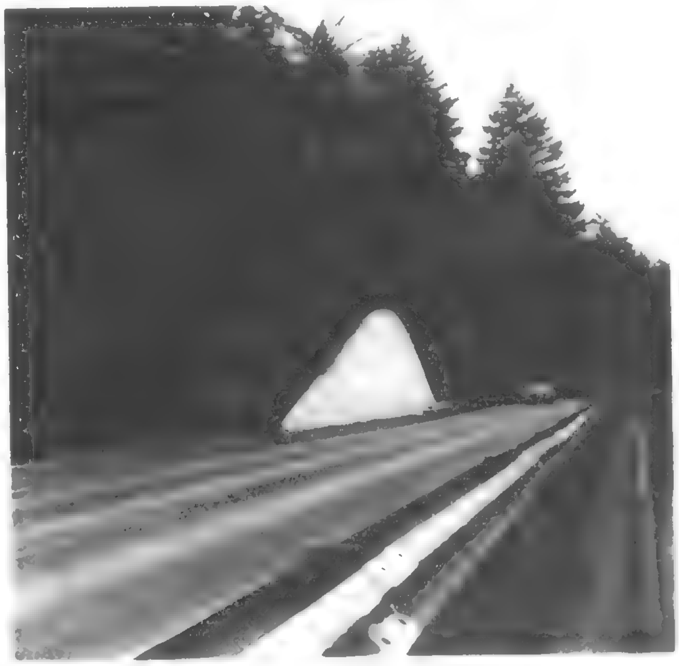
1. [illegible] retaining wall [illegible].
Vista [illegible], [illegible].





2. [illegible] Highlands
Entrance. - [illegible] Tunnel Project,
[illegible].

3. [illegible] retaining wall [illegible]
Entrance. - Vista [illegible] Tunnel Project,
[illegible] t.



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FEB 16 1970
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INSPECTION NO. ONE

CONSTRUCTION DEPARTMENT
INSPECTION REPORT

Name of Job Highlands Interchange-Vista Ridge Tunnel Contract No. 7186

Highway Sunset

Contractor Peter Kiewit Sons' Company Date February 10, 1970

	Initial	Inspection Made by John H. Walker
XX	Intermediate	Hal Versteeg
	Final	Ernest Scrivner
	Special	

REMARKS

This inspection was made primarily to examine the A. C. pavement conditions. The Division and Resident Engineer were concerned with the wear that has taken place the last couple of months. After a good examination, it is my opinion that the cause of the wear which is concentrated in the wheel tracks in each lane is due to late paving which caused a slow cure, and the increase of steel studded tires. By a physical count by Scrivner's forces, it appears that approximately 30% of the cars using this route are equipped with studded tires. Scrivner has been asked to make straightedge checks to determine if there is any grooving occurring. Observation indicates that the studded tires have caused a loosening and then chipping out of the fine size aggregate on the top 1/4 inch of the surface of the pavement. There is no apparent loss of the larger aggregates.

The same conditions are occurring on the Banfield and McLoughlin Boulevard where new pavement was placed this last season. Larry Rulien and myself discussed this condition and he states that by physical count the studded tires make up approximately 19% of the tires on the cars in this area. This situation is not new as it was very prevalent on our new pavement last winter season.

Another close check of the pavement conditions will be made in another month. At present, it appears that the problem is in new softer pavement and studded tires. The mix gradation and asphalt content as well as compaction appear to be normal. Most of this pavement observed was on the base lift A. C. It was recommended to Division and Resident that 60-70 asphalt be used next season in lieu of the 85-100 grade so as to have a little heavier film thickness on the aggregate.

This situation will be closely watched for the next few months.

cc: Div. Engr. A. E. Johnson
Res. Engr. E. L. Scrivner
F. B. Klaboe

John H. Walker
Signed

RECEIVED
MAR 12 1970
FOR FILING

26-1181

7186

H.R.
2-3-70

February 9, 1970

Mr. Ray Smith, Auditor
City of Portland
City Hall
Portland, Oregon 97204

MISC. CONTRACTS and
AGREEMENTS No. 5628

Dear Mr. Smith:

As requested, attached are three fully executed copies of an agreement with the City of Portland, Shannon and Wilson, Inc., and the Oregon State Highway Commission concerning slope stability investigation work in the vicinity of Portland Zoological Gardens.

It is our understanding that you will forward a copy of this agreement to Shannon and Wilson, Inc.

We have retained a fully executed copy of this agreement for the Commission's files.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fkm
Attachments

cc H. S. Cox
(conf. agreement attached)

RECEIVED
FEB 16 1970
FOR FILING

26-1121

7186

PURCHASE ORDER

CITY OF PORTLAND, OREGON
DEPARTMENT OF FINANCE

BUREAU OF PURCHASES AND STORES

ROOM 209 CITY HALL

THIS ORDER NUMBER
12664
Must appear on your invoice in triplicate, on packages and delivery slips.

State of Oregon Highway Department
5821 NE Glisan Street
Portland, Oregon 97213

2-9-70

It is assumed this order will be filled from stock. If there is to be any delay, please advise this office.

Please furnish to
Deliver Prepaid to Bureau of Parks
1107 SW 4th

DESCRIPTION

Engineering services to investigate slide area in Portland Zoological Gardens as performed by Shannon and Wilson Addition to P.O. #3963 6/2/69	$3,250.00

NOTED
F. B. KLABOE

orig to Skoog
2-16-70

RECEIVED
FEB 13 1970
OFFICE OF
STATE HIGHWAY ENGINEER

IMPORTANT—
In order that prompt payments can be made please expedite billing.
Send invoices in triplicate to Bureau of Purchases, Room 209 City Hall.
The City is exempt from Federal Taxes. Do not include in charges. F. E. T. Certificate No. A-161723.
Delivery must be prepaid to destination indicated.
If necessary to add shipping charges, copy of receipted Transportation Bill must accompany invoice.

CITY OF PORTLAND, OREGON,

By ______________________
Purchasing Agent

RECEIVED
FORM E-30 (12-67)
FEB 4 - 1970

FOR FILING

21-1181
1116

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
January 27, 1970

NOTED
R. L. PORTER

To: Memo To The Files

SUBJECT: OMSI-Zoo Slide
S. W. Canyon Road

Representatives from the City alerted the Highway Department that there was movement and cracking in slope above Canyon Road near the Commissary.

Present at a 10:30 A.M. inspection of the site from the Highway Department were A. E. Johnson, E. L. Scrivner, Dan Gano, Warren Paaso and J. H. Versteeg; from Shannon & Wilson, Mr. L. Radley Squier; from the City of Portland, Mr. Buckley and Mr. Staley as well as several City employees.

It was raining hard at the time and considerable water was entering the cracks caused by the movement. Displacement of several inches was observed along the area of cracking.

City crews were preparing to construct ditches to divert the water from the potential slide area. There were no buildings in immediate danger or showing any distress.

Mr. Scrivner was asked to make frequent checks of the area for signs of additional movement. There is nothing to indicate that a major slide could be expected in the near future. However, the weather forecast is for continued rain for the next several days and this will add to the unstable condition of the slope above Canyon Road in this area.

A. E. Johnson
Metropolitan Engineer

By: J H Versteeg

J. H. Versteeg
Assistant Metropolitan Engineer

REFERRED TO
[illegible]
BY ASST. STATE HWY. ENGR

JHV:pb

cc: E. L. Scrivner

NOTED
F. B. KLABOE

RECEIVED
FEB 2 1970
OFFICE OF
STATE HIGHWAY ENGINEER

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FOR FILING
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January 23, 1970

Oregon State Highway Commission

Gentlemen:

Presented for your consideration at the February 3 meeting will be a supplemental agreement with the City of Portland and the firm of Shannon & Wilson, Inc., Consultants, concerning slope stability investigation work in the vicinity of the Portland Zoological Gardens.

Basically, this supplement extends the area of work which was covered in the original agreement dated March 11, 1969, to the area occupied by the OMSI Building. The State and City have agreed to share equally in the $6,500 anticipated cost of the additional work (State share $3,250), and mutually understand that the agreement of March 11, 1969, remains in full force and effect and shall apply with like force and effect to this agreement wherever applicable.

I recommend approval and request authority for the Secretary to sign the agreement for and on your behalf.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
F. B. Klaboe
Victor D. Wolfe
D. J. Barbee
F. D. Morgan
L. H. Young
H. S. Cox
V. E. Skoog
L. W. Rulien

MCH:ljt sr

26-1181 Highlands Int.-Vista Ridge Tunnel 1968
Sec., Sunset Hwy. in Portland (Grad.,
#7186 pav., signing & illum.) #1

68A 3574

[illegible] FEB 3 1970
FORM 2-30 (12-67)
FOR FILING
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[illegible]

file

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
December 16, 1969

REFERRED TO
Cooper - Poster
BY ASST. STATE HWY. ENGR.
2-70

To: Memo To The Files

SUBJECT: Highlands Interchange-
Vista Ridge Tunnel Section

In order to route mainline eastbound traffic onto the upper elevation of Stage IV, it will be necessary to construct and pave a ramp across the existing Highlands Interchange on-ramp eastbound. The indicated traffic pattern for a shift of on-ramp traffic shown on the plans is impossible because at the location the relocated ramp would connect to existing Canyon Road, there is a difference of elevation of approximately 20 feet which would prevent this pattern. It was suggested to the contractor that we could detour eastbound, outgoing traffic from the Zoo and OMSI to the Sylvan Interchange by way of the North Frontage Road and thence, back to Canyon Road via the Sylvan eastbound on-ramp.

In anticipation of such a detour, Mr. Loren McKinley, Director of OMSI, was contacted and familiarized with the proposed detour plan. A meeting was held in Mr. McKinley's office on Tuesday afternoon, December 9. In attendance besides the writer was Mr. Hal Versteeg. Mr. Hal Versteeg, Assistant Metropolitan Engineer, had called Mr. McKinley the week before and indicated we planned to detour outbound traffic and that we would contact him later. On Tuesday, December 9, Mr. McKinley stated that he was having a meeting of his staff that evening and requested another meeting with us the following day and requested that someone from Peter Kiewit Company also attend. At 9:30 AM on Wednesday, December 10, Mr. Hal Versteeg, Mr. Tom Callanan, Superintendent for Peter Kiewit and I met with Mr. McKinley in his office. Mr. McKinley stated that he had met with his staff the previous evening and that it was the consensus of all that blocking of their access by the proposed detour would hurt OMSI. It was pointed out to Mr. McKinley we were not blocking their access, we were merely detouring traffic from OMSI at a point after they had left the OMSI area. Mr. McKinley stated that attendance at OMSI had suffered all year due to the project and showed us a monthly comparison of attendance of 1968 and 1969. September attendance of 1969 was 50,000 against 51,000 for September in 1968. August attendance of 1969 was also down 1,000 from 1968. I pointed out to Mr. McKinley that the early winter months had caused him to shut down OMSI completely and he could

copy to [illegible]
12-19-69

NOTED
FORREST COOPER

hardly blame this on the project. Mr. McKinley agreed that weather had been severe and had caused them loss of customers but he stated that the proposed detour in his opinion was only for the benefit for Peter Kiewit Company who was being well paid. Mr. McKinley stated that we had indicated that the detour would be in effect about 10 days and that he estimated loss to OMSI during this period to be approximately $500 per day and stated that he felt that Peter Kiewit Company should give OMSI a check for $5,000. I told Mr. McKinley that we were in no position to ask Peter Kiewit to contribute financially to OMSI and that we had come to him with our plans in order that he would be familiar with them and for an opportunity to notify any schools that would be sending buses to OMSI in order that they could anticipate a five to ten minute delay in returning. Mr. McKinley again stated that he felt that they would suffer a financial loss and that Peter Kiewit should pay for this loss and he reminded me that his use of radio, television and news media in his recent efforts toward slide correction had been most successful and intimated that he could use these methods again. I told Mr. McKinley that I objected to his blackmail methods, reiterated that the Highway Department would not request any payment from Peter Kiewit Company and told him that we would keep him advised.

Following the meeting with Mr. McKinley, we met with Mr. Oliver Domeries and Mr. Harry Conway of Multnomah County Public Works and received from them approval to detour traffic over the county portion of the frontage road, west of Highlands Road.

On Thursday, December 11, I called Mr. McKinley on the telephone and told him that we would put our detour in effect either Friday, December 12 or Monday, December 15 and would do our best to use it a minimum of time. He asked that I keep him informed and later he called back and said that he had neglected to ask what the contractor proposed to do for them in the way of financial assistance. I told him that I did not know but as far as I knew, they were not planning on giving OMSI any money, whereupon Mr. McKinley asked me to request them to make payment to OMSI. This I refused to do and suggested that he could contact them himself, and gave him Peter Kiewit Company's address. Mr. McKinley said he had basis to go after the contractor and was going to do so. My reply to Mr. McKinley was that in my opinion, he was really reaching, that I saw no damages to him because of our detour and that I would keep him informed.

On Friday, December 12, due to exceptionally hard rains, a decision to pave and construct the ramp was deferred until 10:30 in the morning. At this time it appeared that it would not be possible to pave or construct the ramp and all work was postponed. I called Mr. Loren McKinley and told him that we would not detour traffic over the weekend and weather permitting would attempt to start on Monday and that we would try to do our work so that the detour would be in effect for only four or five days during next week. Mr. McKinley thanked me for advising him and stated that he wished another meeting with me in the near future without the contractor, that he had many items to discuss with me. He stated that he would probably start with Govenor McCall and Mayor Shrunk to get satisfaction, stating that both Govenor McCall and Mayor Shrunk were on the OMSI board and when he has determined his damages, he will start with them to recoup his losses. He intimated that he would attempt to get payment from either the contractor or the Highway Department. I told Mr. McKinley I would call him the first of the week to arrange a meeting at that time with him.

Later on Friday, December 12th, Mr. Hal Versteeg investigated the possibility of constructing a gravel surfaced ramp of approximately 600 feet south of the new Stage IV on-ramp so that the contractor could construct and pave a new ramp. It was decided this would be feasible and traffic from the Zoo-OMSI area could be routed approximately 1,500 feet on the new Stage IV to a temporary junction with the mainline which work would eliminate the need to detour via Sylvan and no additional travel would be involved.

On Monday, December 15th, the gravel ramp was constructed and traffic used it during the daylight hours. At night traffic was again routed on the paved ramp. This is being repeated today, Tuesday, December 16, and will be repeated until all ramp work is completed. Additional payment to the contractor for this consists of approximately 150 cubic yards of base rock, removal of 50 lineal feet of guard rail, approximately 30 tons temporary AC paving, and furnishing of speed control signs, etc., all at unit prices of extra work basis.

Mr. McKinley was advise Monday afternoon that we would not detour traffic via Sylvan and would continue to use the new on-ramp via Stage IV.

Original Signed by A. E. Johnson

A. E. Johnson
Metropolitan Engineer

AEJ:pb

cc: D. B. Klaboe
George Rhode

RECEIVED
DEC 17 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
DEC [illegible] 1969

[illegible], P. E.
Stanley D. Wilson, P. E.
[illegible], P. E.
Walter L. Wright, P. E.
Rudy J. Dietrich, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE - PORTLAND - BURLINGAME
1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 • (503) 223-6147

November 30, 1969

26-1181

IN ACCOUNT WITH:

Oregon State Highway Department
City of Portland
State Highway Bldg.
Salem, Oregon

1186

Attention: Mr. F. B. Klaboe

FOR PROFESSIONAL SERVICES:

Re: Slope Stability Investigation
Portland Zoological Gardens
Portland, Oregon

Services accomplished on the above referenced project in accordance with our proposal dated February 14, 1969, and your agreement dated March 11, 1969. Invoice for services for period of October 1 through October 30, 1969.

Engineering Services:

Technical time charged work: 3½ hours		
Salary cost: $9.27 x 2.5		$ 23.18
Reimbursable Expenses:		
Reproduction	13.91	
Telephone	1.10	
Freight	4.54	
Instrument rental	95.20	114.75
		$137.93

The following is a true and accurate list of employees, hours and rate of pay for our billing dated November 30, 1969, Invoice 1874 Job No 406

C. A. MacKenzie, Draftsman	3½ hours	$8.58
	+8%	.69
		$9.27

12-11-69
REFERRED TO
Sperry
By Asst. State Hwy. Engr.

NOTED
F. B. KLABOE

RECEIVED
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OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
DEC 24 1969

FOR FILING

26-1151
7186

3

5

November 26, 1969

Peter Kiewit Sons' Company
215 S. "V" Street
Vancouver, Washington 98663

Gentlemen:

The State Highway Commission at its meeting on November 18, 1969, granted your request for an extension of the early-phase completion time to November 11, 1969, on Contract No. 7186 for work on the Highlands Interchange-Vista Ridge Tunnel Section of the Sunset Highway in Multnomah County.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By
C. W. Head, Assistant Secretary

er

bc: F. D. Morgan
V. E. Skoog
A. E. Johnson
E. L. Scrivner

FORM E-30 (12-67)

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
October 16, 1969

SUBJECT: Highlands Interchange-Vista Ridge Tunnel Section
Contract No. 7186
Extension of Time

To: Mr. F. B. Klaboe
Assistant State Highway Engineer
BUILDING

Peter Kiewit Sons' Company requests a 42-day extension of time because of an ordered shutdown last winter. The time control on this project is by specified date, with a September 30, 1969 requirement for opening to Stage 4 traffic (this was primarily to require construction of two major retaining walls during the driest part of the year when slopes above them would be most stable) and June 30, 1970 for the complete contract. Although the request forms make no reference to either phase, we note from Mr. McKibben's transmittal letter that the increase requested is for only the Stage 4 or early date which has now passed.

A stop work order was in effect on this project from December 30, 1968 to February 10, 1969 or the 42 days which are requested. This was during the severe winter period when the project was covered with snow and with predominantly low temperatures which caused work to come to a complete halt.

It is therefore justified to extend the early phase completion time for 42 days or to November 11, 1969. One of the critical early phase walls is complete and the other is about 75 percent complete, with completion expected within two weeks. I understand the project may be open to Stage 4 in at least two segments at different times. Liquidated damages on the early phase are $200 per day. This is a State project. A rough draft letter to the Highway Commission is attached.

F. D. Morgan
Construction Engineer

By John A. Bond

John A. Bond
Construction Administration Engineer

RECEIVED
OCT 17 1969
OFFICE OF
STATE HIGHWAY ENGINEER

JAB:fw
Attach.
cc V. L. Gallagher

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 7186 Contractor Peter Kiewit Sons' Co.

Highway Sunset

Section Highlands Interchange-Vista Ridge Tunnel

Kind of Work Grade, Pave, Sign, Illumination

It is recommended that the request for increase in the number of workdays within which to complete said contract be ~~DENIED or~~ GRANTED. The reasons for such recommendation are as follows:

Recommend 42 day extension to November 11, 1969 on the early phase because of stop work order.

Recommended for Approval:

Division Engineer

for Construction Engineer or Bridge Engineer

~~Assistant~~ State Highway Engineer

Contract No.
Project designation
State-Federal
Date awarded
Work started
Per cent completed
Date
No. of Workdays Allowed
No. of Workdays Used
No. of Added Workdays Requested

SP*[illegible]-734

E-326 (Rev.)—5M—9-64

OREGON STATE HIGHWAY COMMISSION

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon 97310

Date September 23, 1969

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from .... days to .... days, within which to complete our Contract No. 7186, without the assessment of liquidated damages. The said contract is described as follows:

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows:

We request extension at this time for a period of time equal to the winter shutdown from December 30, 1968, to February 10, 1969. This would be an extension of 42 calendar days.

Respectfully submitted,

PETER KIEWIT SONS' CO.
Contractor

Norman V. McKibben
By Norman V. McKibben,
Area Manager

CONSENT OF SURETY

Date September 24, 1969

We, The Ætna Casualty and Surety Company ...., as

surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

Kenneth C. Kraig Attorney-in-fact

(SEAL)

....
Resident Agent

[illegible], P. E.
[illegible] E.
[illegible] WRIGHT, P. E.
RUDY J. DIETRICH, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE · PORTLAND · BURLINGAME
1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 · (503) 223-6147

RECEIVED
DEC 5 - 1969

FOR FILING
26-1191
7126

November 26, 1969

Oregon State Highway Department
City of Portland
State Highway Building
Salem, Oregon 97310

Attention: Mr. F. B. Klaboe
Asst. Hwy Engineer

Re: Slope Stability Investigation
Portland Zoological Gardens
Portland, Oregon

Gentlemen:

Enclosed you will find a copy of the billing for equipment rental that should have been attached to our invoice #1800 dated September 30, 1969. If you would attach the copy to the above designated invoice it would be most appreciated.

Thank you for your cooperation.

Very truly yours,

Shannon & Wilson, Inc.

F. L. Willis
F. L. Willis

flw

12-1-69

REFERRED TO
Skoog
BY ASST. STATE HWY. ENGR.

RECEIVED
DEC 1 1969
OFFICE OF
STATE HIGHWAY ENGINEER

[illegible]
F. B. [illegible]

THE SLOPE INDICATOR COMPANY
3668 ALBION PLACE NORTH
SEATTLE, WASHINGTON 98103

406

INVOICE NO. 0346

SOLD TO
Shannon & Wilson Inc.
1617 S.W. Morrision
Portland, Oregon

INVOICE DATE 8-30-69

SHIPPED TO same

OUR ORDER NO.	YOUR ORDER NO.	SALESMAN	TERMS	SHIPPED VIA	PPD. OR COLL.
S-350			net 30 days	S.D. Wilson	

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	Rental of Slope Indicator Instrument #287B with 113' control cable month of August 1969		$200.00 1st mon. min.

POSTED

PRINTED BY GRAYARC CO., INC., BROOKLYN, N.Y. 11232

RECEIVED
[illegible] 1969
FORM E-30 (12-67)
FOR FILING

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7100

Lloyd Shaw

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE
Salem, Oregon
November 24, 1969

SUBJECT: Budget, Major Class 58

To: Mr. Fred Klaboe
Asst. State Highway Engineer
Office

The Materials Division has the responsibility of preparing the budget for Major Class 58, which at the present covers prefixes 5801, which we have been using, and 5807, which has been used for the Zoo Slide investigation by consultants.

Would it be possible to get some information on anticipated costs for 5807 for the balance of this year and for next year so that this data could be incorporated into the budget. Also, if any additional projects are anticipated under Major Class 58, we'd like information on these.

JOHN C. JENKINS
Engineer of Materials & Research

JCJ:zf

cc: L.P. Shaw

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NOV 2[illegible] 1969
OFFICE OF
STATE HIGHWAY ENGINEER

[illegible]
NOV 18 1969
FOR FILING

26-1181

7186

November 17, 1969

Mr. Loren D. McKinley
Executive Director
Oregon Museum of Science & Industry
4015 S. W. Canyon Road
Portland, Oregon 97221

Dear Mr. McKinley:

Reference is made to your letter of November 14 concerning further studies on the zoo slide with particular emphasis on recommendations for the OMSI problem.

As I told you recently, we are working with Shannon & Wilson attempting to modify the original agreement for the study to include studies pertinent to OMSI. These negotiations are now well along and I expect that they will be consummated within the next few weeks.

At such time as the contract has been drawn up, you will undoubtedly be contacted by Shannon & Wilson concerning any information that you may have on the slide. I would appreciate it if you would give them your complete cooperation so that we can resolve this matter.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

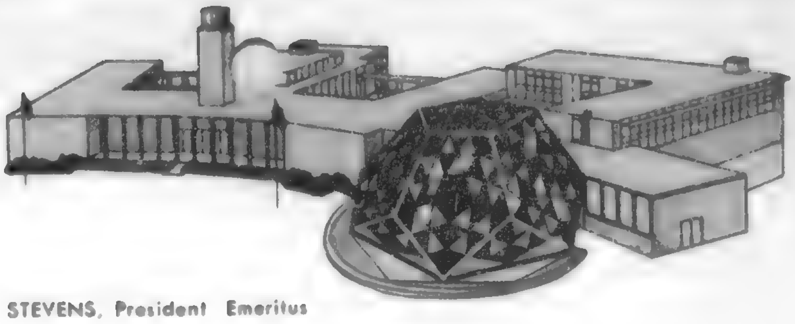
F. B. Klaboe
Assistant State Highway Engineer

FBK:srb

cc: Forrest Cooper
R. L. Porter

omsi

OREGON MUSEUM OF SCIENCE & INDUSTRY
4015 S.W. Canyon Road Portland, Oregon 97221
226-4518



J.C. STEVENS, President Emeritus

November 14, 1969

Mr. Fred B. Klaboe
Assistant State Highway Engineer
Oregon State Highway Department
State Highway Building
Salem, Oregon 97310

Dear Mr. Klaboe:

Several weeks ago, I received a phone call from you concerning OMSI's situation in regard to the slide, and verbal confirmation that further study would be made on OMSI's behalf. As of this date I have received no written information on this matter, and would deeply appreciate some confirmation, so that I may apprise the OMSI Board of the present status of the slide investigation.

Sincerely yours,

Loren D. McKinley

Loren D. McKinley
Executive Director

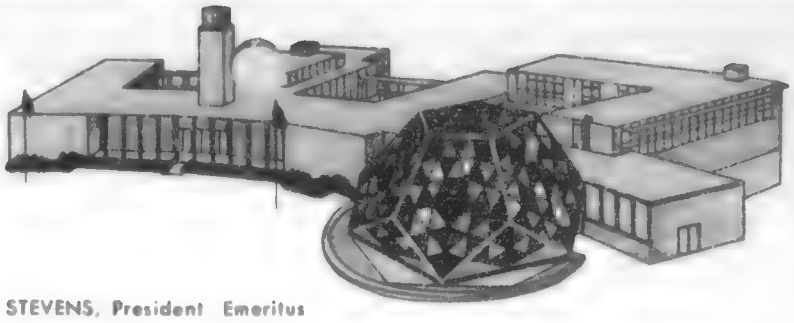
LDM:jr
Cc: Mr. Bruce Hall

RECEIVED
NOV 17 1969
OFFICE OF
STATE HIGHWAY ENGINEER

A non-profit, educational organization dedicated to the advancement of science and industry through the youth of the region.

omsi

OREGON MUSEUM OF SCIENCE & INDUSTRY
4015 S.W. Canyon Road Portland, Oregon 97221
226-4518



J.C. STEVENS, President Emeritus

November 14, 1969

Mr. Fred B. Klaboe
Assistant State Highway Engineer
Oregon State Highway Department
State Highway Building
Salem, Oregon 97310

Dear Mr. Klaboe:

Several weeks ago, I received a phone call from you concerning OMSI's situation in regard to the slide, and verbal confirmation that further study would be made on OMSI's behalf. As of this date I have received no written information on this matter, and would deeply appreciate some confirmation, so that I may apprise the OMSI Board of the present status of the slide investigation.

Sincerely yours,

Loren D McKinley

Loren D. McKinley
Executive Director

LDM:jr
Cc: Mr. Bruce Hall

RECEIVED
NOV 17 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
NOV 5 - 1969
FORM E-30 50M 10-68
FOR FILING

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7116

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE
Salem, Oregon 97310

November 4, 1969

SUBJECT: Zoo Slide

To: MEMO TO THE FILE

On this date, I talked to Commissioner Ivancie concerning the agreement for the buttress toe in connection with the Zoo slide problem.

Commissioner Ivancie had been informed by the Mayor of the visit he, Mr. Jackson and I had on October 14 to the effect that the City will put up $100,000 and the State would supply the remainder of the cost for the construction of the buttress. Commissioner Ivancie stated that he could provide the $100,000 in one payment to us after the beginning of the next fiscal year.

I also requested Commissioner Ivancie to participate 50-50 in the OMSI problem which is the same basis we participated in the Zoo slide problem. It is estimated that this study by Shannon & Wilson will cost a maximum of $6,500. He advised me that he would check with his people and let me know very soon.

F B Klaboe
F. B. Klaboe
Assistant State Highway Engineer

FBK:srb

cc: Forrest Cooper
R. L. Porter
H. S. Cox

RECEIVED
NOV 17 1969

Fc.

WILLIAM L. SHANNON, P. E.
[illegible] WILSON, P. E.
EARL A. SIBLEY, P. E.
WALTER L. WRIGHT, P. E.
RUDY J. DIETRICH, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE · PORTLAND · BURLINGAME
1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 · (503) 223-6147

#1840

October 30, 1969

26-1181
7186

IN ACCOUNT WITH: Oregon State Highway Dept.
City of Portland
State Highway Bldg.
Salem, Oregon

Attention: Mr. F. B. Klaboe
Assistant Highway Engineer

FOR PROFESSIONAL SERVICES:

Re: Slope Stability Investigation
Portland Zoological Gardens
Portland, Oregon

Services accomplished on the above referenced project in accordance with our proposal dated February 14, 1969 and your agreement dated March 11, 1969. Invoice for services for period of September 1 through September 30, 1969.

Engineering Services:

Technical time charged to work: 4 hours		
Salary Cost	$16.23 x 2.5	$ 40.58

Reimbursable Expense:

Telephone	$ 1.98	
Equip. Rental	140.00	
One additional copy of report sent to Mr. Dan Gano, per his request	36.36	178.34
		$218.92

NOTED
F. B. KLABOE

RECEIVED
NOV 14 1969
OFFICE OF
STATE HIGHWAY ENGINEER

[illegible] 11-17-69

RECEIVE
OCT 21 1969
FOR FILE
26-1181
7186

October 20, 1969

Oregon State Highway Commission

Gentlemen:

Request for Extension of Time
No. 5
November 18, 1969 meeting

Peter Kiewit Sons' Company has requested a 42-day time extension on the early-phase completion requirement on the Highlands Interchange-Vista Ridge Tunnel Section of the Sunset Highway, Contract No. 7186, in Multnomah County. The request is based on an ordered stop work period which extended from December 30, 1968, to February 10, 1969.

A formal shutdown of the project was in effect during that time because of severe winter conditions.

This project requires several temporary traffic patterns in order to accomplish the construction. One of the requirements is that it be opened to Stage 4 by September 30, 1969. The purpose of this was mainly to enable two major retaining walls to be constructed during the most optimum weather and ground conditions. One of the walls is complete and the other is expected to be within two weeks.

The stop work order justifies extension of this early-phase completion time to November 11, 1969. It is expected that most of the Stage 4 will be in use by that time.

I recommend that the early-phase completion date be extended to November 11, 1969, which we expect will eliminate all liquidated damages on this phase. This is a State project.

This matter will be on the agenda for your consideration at the November 18 meeting.

JAB:fw sr

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
F. B. Klaboe
Victor D. Wolfe
V. E. Skoog
F. D. Morgan
A. E. Johnson

RECEIVED
OCT 17 1969
FOR FILING

FORM [illegible] 50M 10-68

[illegible]

ORECON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon 97310
October 17, 1969

SUBJECT: Zoo Slide

To: MEMO TO THE FILE

During the noon recess for the Harbor Drive hearing held on October 14, Chairman Jackson and I called on Mayor Schrunk, City of Portland, to discuss the financial arrangements for the cost of the Zoo slide work on Canyon Road. The consulting firm of Shannon & Wilson has prepared plans and specifications for a buttress adjacent to the highway which, in their opinion, is the most practical approach to the problem. The State Highway Division estimated the cost of construction of this buttress, if the work were done this fall, would be $400,000. We offered to split the cost 50-50 with the City.

The City was unable to come up with its $200,000 share and this delayed the implementation of the work beyond the time that it could be done this year. I also informed Mayor Schrunk and Chairman Jackson that the cost of the buttress to be constructed next summer would increase from the original $400,000 to $500,000.

Commissioner Jackson asked the Mayor if the City could contribute $100,000 to the buttress. He was informed that the City could go this far but no more.

In view of the fact that the City could not contribute in excess of the $100,000, and inasmuch as the State Highway Division has a stake in this matter because slide material continues to encroach on our highway causing danger to the motorist, Chairman Jackson instructed me to work up the project for contracting next summer and agreed to the use of Highway funds for all costs in excess of $100,000 which the City would pay.

Chairman Jackson also instructed me to complete the study of the OMSI slide at our cost which, according to the consultant, could be helped by the construction of a bin wall adjacent to the OMSI building.

He also advised me that it was not necessary to get a release from OMSI concerning liability for the construction of the buttress but that we should get a release from future liability from the City for the buttress work. Mayor Schrunk agreed that the City would provide such a release.

After returning to my office, I called Mr. McKinley of OMSI and advised him that we would complete the study adjacent to his property and confer with him about the results of said study at sometime in the future. I also called Mr. Walter Wright of Shannon & Wilson and asked him to give me a quote for the OMSI work. Since the original contract with Shannon & Wilson has not been closed out, and since there remains $4,989.02 in the authorization, it is my opinion that an addendum to it can be executed if the cost of performing this additional work is less than the figure quoted above. Mr. Wright will contact me in the very near future with further details and we can make our decision at that time how to go.

FB Klaboe
F. B. Klaboe
Assistant State Highway Engineer

FBK:srb

cc: Forrest Cooper
R. L. Porter

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FBKlaboe
F. B. Klaboe
Assistant State Highway Engineer

FBK:srb

cc: Forrest Cooper
R. L. Porter

0-406 C

WILLIAM L. SHANNON, P. E.
STANLEY D. WILSON, P. E.
EARL A. SIBLEY, P. E.
WALTER L. WRIGHT, P. E.
RUDY J. DIETRICH, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE · PORTLAND · BURLINGAME
1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 · (503) 223-6147

DEC 4 1969

26-1181
7146

October 15, 1969

Oregon State Highway Department
City of Portland
State Highway Building
Salem, Oregon 97310

Attention: Mr. F. B. Klaboe
Asst. State Hwy Engineer

Re: Slope Stability Investigation
Portland Zoological Gardens
Portland, Oregon

Gentlemen:

In the process of accomplishing the scope of work outlined in our proposal dated February 14, 1969 it is the intent of the Consultant to employ the following personnel of our staff at the indicated hourly rate in addition to those listed in our letters of March 12, May 28 and July 9, 1969.

Title	Name	Hourly Rate
Principal Engineer	S. D. Wilson	13.70/hr
	W. L. Shannon	13.70/hr
Engineer	P. M. Douglass	5.192/hr
Laboratory Technician	M. Mohr II	2.74/hr **
Draftsman	S. Hunter	3.00/hr **

** Note: These individuals are paid overtime at the rate of 1.5 the basic hourly rate and double time for holiday work.

The following employees have had a change in their hourly rate of pay.

Title	Name	Date of Rate Change	Hourly Rate
Principal Engineers	W. L. Wright	4/1/69	11.538/hr
	L. R. Squier	8/11/69	8.654/hr
Principal Geologist	R. J. Deacon	8/11/69	7.452/hr

orig to Skoog
12-1-69

REFERRED TO
Griffin
V. E. SKOOG, Controller

NOTE
F. B. Kl

Title	Name	Date of Rate Change	Hourly Rate
Geologists & Engineers	P. B. Kelly	8/11/69	5.885/hr
	P. M. Douglass	8/4/69	5.625/hr
	D. Kellum	4/15/69	5.00/hr **

(D. Kellum was originally listed as a technician, he has since been reclassified as a Geologist, consequently his rate change conforms to his degree and classification).

Title	Name	Date of Rate Change	Hourly Rate
Laboratory Technician	R. Ballweber	7/14/69 9/29/69	3.173/hr ** 3.317/hr **
	M. Mohr II	6/30/69	2.74/hr **
Draftsman	J. Powell	6/14/69	3.45/hr **
Clerical	G. Gehrke	8/11/69	2.596/hr **

** Note: These individuals are paid overtime at the rate of 1.5 times the basic hourly rate.

We trust this information will be sufficient for your accounting needs, but if you have any questions please contact us at your convenience.

Very truly yours,

SHANNON & WILSON, INC.

by Walt L. Wright
WALTER L. WRIGHT

WLW:fw

RECEIVED
NOV 26 1969
OFFICE OF
STATE HIGHWAY ENGINEER

Approved
Asst. State Hwy. Engr.

RECEIVED
OCT 8 - 1969

FOR FILING

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

October 7, 1969

26-1181

7186

Mr. Robert L. Recken
Attorney at Law
Public Service Building
Portland, Oregon 97204

NOTED
R. L. PORTER

Re: West Slope Water District

Dear Mr. Recken:

Your letter of September 3, 1969 addressed to G. E. Rohde, with respect to the claim by the West Slope Water District, has been referred to me for reply.

Following receipt of your letter it was necessary to request our engineering department to review the claim and to commence some research on the entire file. You will recall that correspondence and meetings have been carried on between West Slope Water District and the State since at least July 1965.

I can assure you we are not attempting to drag our feet on this matter, but it will become necessary for me to obtain a complete understanding of the entire file before any recommendations can be made to the Highway administrators.

While I do not wish to complain, I only had about one week vacation last year and about ten days the previous year. This year I have had five days to date and am hopefully planning to take off from October 8 through October 18 to get in a little house painting and hunting.

I assure you, however, that upon my return I will immediately delve into all the ramifications involved and reply to your letter as soon as possible.

Very truly yours,

G. E. ROHDE
Chief Counsel

By

FRANK C. McKINNEY
Assistant Counsel

RECEIVED
OCT 7 1969
OFFICE OF
STATE HIGHWAY ENGINEER

FCMcK:ks

cc: R. L. Porter
F. B. Klaboe
G. E. Rohde

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FOR FILING

0-406
1800

William L. Shannon, P. E.
Stanley D. Wilson, P. E.
Earl A. Sibley, P. E.
Walter [illegible] Wright, P. E.
Rudy J. Dietrich, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE · PORTLAND · BURLINGAME
1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 · (503) 223-6147

26-1181

September 30, 1969

IN ACCOUNT WITH: Oregon State Highway Department
City of Portland
State Highway Building
Salem, Oregon

7186

Attention: Mr. F. B. Klaboe
Assistant State Highway Engineer

FOR PROFESSIONAL SERVICES:

Re: Slope Stability Investigation
Portland Zoological Gardens
Portland, Oregon

Services accomplished on the above referenced project in accordance with our proposal dated February 14, 1969, and your agreement dated March 11, 1969. Report submitted August 4, 1969. Invoice for services for period of August 1 through August 30, 1969.

Engineering Services:

Technical time charged work: 85½ hours

Salary Cost	$615.32 x 2.5	$1538.30

Reimbursable Expense:

Reproduction	$91.59	
Telephone	10.95	
Instrument Rental	200.00	302.54
		$1840.84

orig. to Skoog
10-29-69

RECEIVED
OCT 30 1969
OFFICE OF
STATE HIGHWAY ENGINEER

Invoice 1800 Continued

Principal Engineer	W. L. Wright	7 hrs.	@	11.538	$80.78
	L. R. Squier	36 hrs.	@	8.654	300.01
Engineer & Geologist	R. J. Deacon	5½ hrs.	@	7.452	40.99
	P. B. Kelly	13½ hrs.	@	5.885	78.03
	P. M. Douglas	1 hr.	@	5.192	5.19
Technician	M. D. Mohr	2½ hrs.	@	2.74	6.85
	R. R. Ballweber	2 hrs.	@	3.173	6.35
Draftsman	C. A. MacKenzie	5 hrs.	@	2.452	12.26
	J. W. Powell	6½ hrs.	@	3.45	22.42
Clerical	G. Gehrke	6½ hrs.	@	2.596	16.86
		85½ hrs.			$569.74
				+8%	45.58
					$615.32

The above is a true and accurate list of employees, hours and rate of pay for our billing dated September 30, 1969

Walt L. Wright

Walter L. Wright
Vice President

9-23-69

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FOR FILING

26-1181
1186

OMSI-ZOO SLIDE PROBLEM

Summary of statement concerning need for dialogue and information from City and State Highway Department.

PROBLEM:

1. OMSI has been asked by City, speaking for the State, to sign a release before correction work can begin.

2. OMSI has not been informed of the corrective work to be done.

3. The Shannon reports were completed June 6 and July 1. OMSI finally obtained a loaned copy September 12.

4. Study by OMSI consultants indicates:
   a. Shannon reports indicate "engineering study of OMSI . . . is beyond the scope of this report".
   b. "Present recommendations will not solve all OMSI slide problems".
   c. "It may be too late this season to carry out buttress construction".
   d. "Sliding appears to be triggered by rainfall infiltration in slide area and/or by sewer leaks".
   e. Both soil moisture control and slide mass containment should be effected.

SUMMARY:

OMSI's problem is both a technical one and a legal one.

A. Legal
   1. Status of previous release in view of additional work by State Highway?
   2. Lack of information as to proposed work and release required.
   3. Damage to OMSI's income and Fund drive due to construction and adverse publicity.

B. Technical
   1. Lack of technical information as to remedy and its relation to OMSI.
   2. Apparent neglect of area directly south of OMSI in plans.
   3. Apparent neglect of any control of surface water.

IMMEDIATE STEP

1. Call for a meeting (or hearing) with high level representatives of State, State Highway Commission, City, City Engineers, Park Department, Zoo Society and OMSI, including both technical and legal staffs to discuss:
   a. Engineering design of remedial measures.
   b. Timing and hazards attendent to timing.

NOTED
F.B. KLABOE

September 23, 1969

L.R. Rockwood

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SEP 29 1969

FOR FILING
26-1181
1186

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213

September 22, 1969

To: Mr. F. D. Morgan
Construction Engineer
State Highway Building
Salem

SUBJECT: Preliminary Estimate
OMSI - Zoo Slide
Sunset Highway

ATTENTION: Mr. Gil Decker

NOTED
R. L. PORTER

On Thursday, September 18, 1969, I met with Mr. Norman McKibbon, Area Manager, Peter Kiewit Sons' Company. He confirmed that unit cost figures shown on our preliminary estimate for the slide stabilization work were firm if the work could be done this fall.

If this work is not scheduled until the next construction season, he estimates it would cost an additional $90,000. The unit cost for general excavation would go up a dollar a cubic yard and the rock in buttress price would increase by fifty cents a cubic yard.

A. E. Johnson
Metropolitan Engineer

By:

J H Versteeg

J. H. Versteeg
Assistant Metropolitan Engineer

NOTED
F. B. KLABOE

JHV:pb

cc: K. D. Limbocker

REFERRED TO
Porter
By Asst. State Hwy. Engr.
Info

RECEIVED
SEP 24 1969
OFFICE OF
STATE HIGHWAY ENGINEER

Form E4tz

OREGON STATE
HIGHWAY DEPARTMENT

TABULATION SHEET
SHEET .... OF .... SHEETS

Omsi-Zoo Slide Stabilization
Sunset Highway

Estimate Quantities

ITEM	Unit	Quantity	+10%	Unit cost	Amt
Gen. Exc. - Uncl	Cu. Yd	29,010	47,500	1.60	76,000
Rock in Buttress	" "	39,500	43,500	3.50	152,250
1½"-0 Filter Blanket	" "	4,730	5,200	6.00	31,200
Sand Filter Blanket	" "	2,250	2,500	6.00	15,000
8" Perf. Pipe, Bit. Coated	L. Ft.	1,500	1,650	3.00	4,950
8" Sewer Pipe	" "	160	180	3.00	540
Special Backfill in Drains	Cu. Yd.	350	400	8.00	3,200
Standpipe with M.H. Cover	Each	1	1	400.00	400
Topsoil	Cu. Yd	2000	2,200	4.00	8,800
Seeding & Mulching	Acre	1.25	1.25	800.00	1,000
Instrumentation	Lump Sum		—	3000.00	3,000
Trench Exc.	Cu. Yd	300	350	6.00	2,100
Manhole	Each	1	1	800.00	800
Test Pits	"	3	3	500.00	1,500
			Total		$300,740
		+ 30% E&C.			$90,222
					$390,962

METROPOLITAN ENGINEER
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AUG 12 1969
ME AME ANE MOE MDE MTE

Add 1¢ to [illegible]
" .050 to [illegible]
= ±90,000 next year.

SUGGESTED LETTER FOR GOVERNOR McCALL'S CONSIDERATION
September 22, 1969

Oregon State Highway Commission

Gentlemen:

The problem of the unstable and sliding ground in the vicinity of the Portland Zoo and the Oregon Museum of Science and Industry continues to be of grave concern not only to my office but to the whole Oregon community. I know I need not emphasize the importance of these facilities to all Oregonians, and our public expects and is entitled to an assurance that the facilities can continue to operate with no serious interruption or damage.

While I fully recognize that providing such assurance is not a legal obligation of the Highway Commission, it seems evident that this unstable ground with its potential for slippages and slides could be classed as a hazard to the highway facility in that area.

Without seeking legal opinion and without a detailed study and analysis of the problem, it would seem that the Highway Commission could, in an interest of protecting Canyon Road and traffic traveling thereon, contribute to the control or elimination of this potential hazard.

I urge that the Highway Commission immediately undertake such negotiation as is necessary with the City of Portland in an effort to find a solution that may be achieved by cooperative effort. I will personally appreciate any attention that you can give to this important problem.

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FOR FIL

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7186

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
September 16, 1969

SUBJECT: Laboratory Reports
Assignment No. 3044-FBK

To:

3044

Mr. F. B. Klaboe
Assistant State Highway Engineer
BUILDING

It is recommended the present policy of distributing laboratory reports to contractor's main business office be maintained.

Elimination or change in this procedure to have results submitted to his representative on the project would in a sense be a step backward. Test results have always been available to the contractor's representative at the Resident Engineer's office. The contractor's representative generally could care less as to the results unless failing results are called to his attention by the Resident. When a disagreement arose over the non-specification material, the contractor's first excuse for not correcting the deficiencies noted was that he was not aware of them even though we had evidence to prove his representative had been notified. Therefore, the practice of sending the contractor copies of the laboratory reports was instituted. To revert back to sending results to the various representatives on the project would defeat the original purpose intended.

F D Morgan
F. D. Morgan
Construction Engineer

MDG:fw
Attach.
cc John Jenkins

NOTED
LLOYD P. SHAW

Shaw
I couldn't agree more -
Fred

1859

OREGON STATE
HIGHWAY DEPARTMENT

Routing
Morgan
Docker
Bond
Walker
Boehme
Johnsen

RECEIVED
SEP 0 1969
CONSTRUCTION
DIVISION

Pease
Swan
Glenn
Litchfield
Gallagher
Stein

August 13, 1969

Peter Kiewit Sons' Co.
P. O. Box 3051
Portland, Oregon

Attention: Herb Lane

SUBJECT: Laboratory Reports

Dear Sirs:

Your letter addressed to Robert E. Shotwell dated August 12, 1969 concerning the distribution of Oregon State Highway Division Laboratory Reports has been received by this office.

It is, at this time, impractical due to our volume of reports to distribute laboratory reports for your various projects to more than one address.

The distribution of laboratory reports to the project contractors was initiated by this office several years ago as a convenience to the contractor. We are now considering the elimination of direct reporting to contractors in favor of having the project engineer furnish the testing report information to the contractor as was the past procedure.

If an address other than the above would be more convenient to you, please advise.

Very truly yours,

JOHN C. JENKINS
Engineer of Materials & Research
by

R. C. ZITZEWITZ
Materials Office Engineer

RECEIVED
AUG 14 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RCZ:zf

cc: R. Shotwell
✓ L. Shaw

RECEIVED
SEP 8 1969
FOR FILING

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7186

0-406

William L. Shannon, P. E.
Stanley D. Wilson, P. E.
[illegible], P. E.
Walter L. Wright, P. E.
Robt U. Dietrich, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE · PORTLAND · BURLINGAME

1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 • (503) 223-6147

September 8, 1969

9-9-69 copies to Decker, Barbee & Al Johnson w/note:

Please incorporate info into buttress design.

FBK

Oregon State Highway Department
State Highway Building
Salem, Oregon

Attention: Mr. F. Klaboe
Assistant State Highway Engineer

Bureau of Parks
1107 S. W. 4th Ave.
Portland, Oregon

Attention: Mr. H. Buckley
Superintendent of Parks

Re: Recommended Invert Elevations
Subdrain for Toe Buttress
Zoo Slide

Gentlemen:

During the week of August 18, 1969 three (3) test pits were dug at the toe of the OMSI-Zoo slide in order to obtain additional subsurface information, among otherreasons, for the design of the subdrains in the planned toe buttress.

The three test pits were dug using a Unihoe 119 and, later a Dynahoe to depths in the order of 11 feet. The test pits were dug at Stations 103+00, 101+50 and 98+90. In all instances, the test pits were dug through the slide zone material to gray weathered vesicular basalt. The elevation of the upper surface of the gray weathered vesicular basalt as determined by the test pits agrees reasonably well with the seismic velocity profiles presented in our Final Report dated August, 1969. The agreement was within 1 or 2 feet, which was previously predicted.

Failure zones and/or probable failure zones were observed at the following elevations (approx.) in the walls of the test pits:

Designation	Station	Failure Zones
TP-1	98+90	544-547
TP-2	101+50	(568-571 (552-559
TP-3	103+08	572 ± 566 ±

NOTED
F. B. KLABOE

The buttress as designed should, if founded on the gray weathered vesicular basalt be below all the observed zones of movement as exemplified by numerous and distinct slickensided surfaces.

On the basis of the test pit data (TP-1 thru TP-3) and the seismic refraction survey completed earlier the following design invert elevations for the toe buttress subdrain are tabulated as follows:

Invert Elev. of Subdrain, ft.	Station
567	104+00
565	103
557	101+50
553	100+50
548	99+30
543	98+00

We trust the foregoing is ample for your needs at this time.

Very truly yours,

SHANNON & WILSON, INC.

by L. R. Squier
L. Radley Squier, P.E.

LRS:gg

RECEIVED
SEP 9 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
SEP 22 1969

STANLEY D. WILSON, P. E.
EARL A. SIBLEY, P. E.
WALTER L. WRIGHT, P. E.
RUDY J. DIETRICH, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE - PORTLAND - BURLINGAME

1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 • (503) 223-6147

August 30, 1969

26-1181
IN ACCOUNT WITH:
7181

Oregon State Highway Department
City of Portland
State Highway Building
Salem, Oregon

Attention: Mr. F. B. Klaboe
Assistant State Highway Engineer

FOR PROFESSIONAL SERVICES:

Re: Slope Stability Investigation
Portland Zoological Gardens
Portland, Oregon

Services accomplished on above referenced project in accordance with our proposal dated February 14, 1969 and your agreement dated March 11, 1969. Progress report submitted June 6 and July 1, 1969. Invoice for services for period of July 1 through July 26, 1969.

Engineering Services:

Technical time charged to work: 91 hours

* Salary Cost	$580.56 x 2.5	$1451.40

Reimbursable Expense:

Reproduction	$88.66	
Telephone	5.23	
Slope Indicator	63.00	156.89
		$1608.29

* Payroll breakdown attached.

orig to Skoog
9-23-69

RECEIVED
SEP 23 1969

Invoice 1763 Continued

Principal Engineer	W. L. Shannon	1 hour	13.70	$13.70
	S. D. Wilson	6 hours	13.70	82.20
	W. L. Wright	2 hours	11.539	23.08
	L. R. Squier	26 hours	7.692	200.00
Engineer and Geologist	P. B. Kelly	20 hours	4.962	99.24
Tech.	Michael Mahr	2 hours	2.74	5.48
	Richard Ballweber	2 hours	3.173	6.35
Draftsman	James Powell	17 ½ hours	3.45	60.38
	James Powell	2 ½ hours	6.90 (OT)	17.25
	C. Mackenzie	4 hours	2.452	9.81
Clerical	G. Gehrke	8 hours	2.509	20.07
				$ 537.56
			8%	43.00
				$ 580.56

The above is a true and accurate list of employees, hours and rate of pay for our billing dated July 1 through July 26, 1969.

Walt L. Wright

Walter L. Wright
Vice President

THE SLOPE INDICATOR COMPANY
1105 NORTH 38th STREET
SEATTLE, WASHINGTON 98103

INVOICE NO. 0315

SOLD TO
Shannon & Wilson Inc.
1675 S.W. Morrison
Portland, Oregon 97205

INVOICE DATE 7-16-69

SHIPPED TO same

OUR ORDER NO	YOUR ORDER NO.	SALESMAN	TERMS	SHIPPED VIA	PPD OR COLL
[illegible]			net 30 days		

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	Rental of Slope Indicator instrument #200B-38 with 133' control cable, pulley assembly with/cable hold		
	Returned 7-14-69 .45 month of July 1969	140.00/mo	$63.00
	(End of Rental)		

PRINTED BY GRAYARC CO., INC., BROOKLYN, N. Y. 11232

RECEIVED
AUG 15 1969

FOR FILING

26-1171
7146

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
August 15, 1969

SUBJECT:

To: Memo to the file

On Monday, August 11, I called Commissioner Ivancie and advised him that we had negotiated prices with our contractor for the Highlands Interchange-Vista Ridge Tunnel Section. The total cost including engineering and contingencies for the buttress work as estimated by Shannon & Wilson would amount to $394,960. I gave him this figure and reiterated our proposal to share the costs for the buttress only on a 50-50 basis.

Commissioner Ivancie advised me that he would confer with his City Council and tell me the results of this as soon as possible.

I further advised him it was highly desirable to begin work on the buttress immediately so that we could show some tangible results this year and so we could coordinate the work with the existing contractor's work. He expressed the opinion that the City was very desirous of going ahead with the work, but that they would probably find themselves in a financially embarrassed position. I therefore offered to recommend to the Commission a two-payment deal--$100,000 before we begin the work and $100,000, or whatever is left, one year later.

I also advised Commissioner Ivancie that as soon as we receive further word from him, we would prepare an agreement covering the work, holding the State Highway Division harmless during the work and subsequent to it.

F B Klaboe
F. B. Klaboe
Assistant State Highway Engineer

FBK:srb sr

cc: Forrest Cooper
R. L. Porter
Victor D. Wolfe
H. S. Cox
F. D. Morgan
A. E. Johnson

Form E49x

OREGON STATE
HIGHWAY DEPARTMENT

TABULATION SHEET

SHEET .... OF .... SHEETS

Omsi-Zoo Slide Stabilization
Sunset Highway

Estimate Quantities

ITEM	Unit	Quantity	+10%	Unit Cost	Amt
Gen. Exc. Uncl	Cu. Yd	25,010	27,500	1.60	76,000
Rock in Buttress	" "	39,500	43,500	3.50	152,250
12" Ø Filter Blanket	" "	4,730	5,200	6.00	31,200
Sand Filter Blanket	" "	2,250	2,500	6.00	15,000
8" Perf Pipe, Bit. Coated	L. Ft.	1500	1,650	3.00	4,950
8" Sewer Pipe	" "	160	180	3.00	540
Special Backfill in Drains	Cu. Yd.	350	400	8.00	3,200
Standpipe with M.H. Cover	Each	1	1	400.00	400
Topsoil	Cu Yd	2000	2,200	4.00	8,800
Seeding & Mulching	Acre	1.25	1.25	800.00	1,000
Instrumentation	Lump Sum		—	3000.00	3,000
Trench Exc	Cu Yd	300	350	6.00	2,100
Manhole	Ea.	1	1	800.00	800
Test Pits	"	3	3	500.00	1,500
Relocate Lights					3,000
			Total		$303,740
	+ 30% E&C				$91,220
					$394,960

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AUG 15 1969

FOR FILING

26-1181

7186

August 14, 1969

Mr. Harry Buckley
Bureau of Parks
City of Portland
City Hall Annex
Portland, Oregon 97204

Dear Harry:

In accordance with our phone conversation of this date, I am enclosing a resume of the contractor's prices for the construction of the buttress wall for the zoo slide. We have analyzed them and feel that they are fair to both parties.

As I stated, they are only good if the order for the work is executed right away. The contractor is prepared to begin work as soon as he gets the go-ahead from us.

It is my recommendation that they be accepted and that the work proceed as far as possible this year.

If agreeable to your Council, I will immediately send an agreement to cover the matter. Said agreement will, of course, state that the City holds the State harmless for any damages to your facility during and after the work.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

F. B. Klaboe
Assistant State Highway Engineer

Enc.
cc: Forrest Cooper
R. L. Porter
V. D. Wolfe
F. D. Morgan
A. E. Johnson
L. W. Rulien
FBK:sr

HIGHWAY DEPARTMENT SHEET .... OF .... SHEETS

Small-Zoo Slide Stabilization
Sunset Highway

Estimate Quantities

I T E M	Unit	Quantity	+10%	Unit Cost	Amt
[illegible] Haul	Cu.Yd	[illegible]010	[illegible]	1.60	[illegible]
[illegible] Buttress	" "	39,500	[illegible]	5.50	[illegible]
[illegible] Blanket	" "	4,750	5 200	6.00	31,200
[illegible]	" "	[illegible]	2 500	6.00	[illegible]
[illegible] Pipe, Bit. Coated	L.Ft.	1,500	1 [illegible]	3.00	[illegible]
[illegible] Pipe	" "	160	180	3.00	540
[illegible] fill in Drains	Cu.Yd.	350	400	8.00	[illegible]
[illegible] with M.H. Cover	Each	1	1	400.00	[illegible]
[illegible]	Cu Yd	2000	2 200	4.00	[illegible]
[illegible]	Acre	1.25	1.25	800.00	[illegible]
[illegible]	Lump Sum		—	3000.00	[illegible]
[illegible]	Cu.Yd	300	350	6.00	[illegible]
[illegible]	Each	1	1	800.00	800
[illegible]	"	3	3	500.00	1,500
			Total		[illegible]
	+ 30% E&C.				[illegible]

William L. Shannon, P. E.
Stanley D. Wilson, P. E.
Earl A. [illegible], P. E.
Walter L. Wright, P. E.
Rudy J. Dietrich, P. E.

SHANNON & WILSON, INC.
Soil Mechanics and Foundation Engineers
SEATTLE · PORTLAND · BURLINGAME
1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 · (503) 223-6147

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SEP 26 1969
FOR

26-1181
7186

August 1, 1969

30 02

Oregon State Highway Department
State Highway Building
Salem, Oregon

Attn: Mr. F. Klaboe
Ass't. State Highway Engineer

Routing
Morgan
Decker
Bond
Walker
Boehme
Johnsen
Pease
Swan
Glenn
Litchfield
Gallagher
Stein

RECEIVED
AUG
CONSTRUCTION DIVISION

Bureau of Parks
1107 S. W. 4th Ave.
Portland, Oregon

Attn: Mr. H. Buckley
Superintendent of Parks

NOTED
F. B. KLA

Re: Instrumentation for Monitoring
Slide Movements During Construction,
OMSI-Zoo Slide, Portland, Oregon

Gentlemen:

In our opinion, it is important that the behavior of the slide mass be carefully monitored during construction with relatively sensitive instrumentation so that the trend of movement can be critically monitored and prompt action taken if the movements appear to be adverse.

For the purpose of monitoring slide movements we recommend that four (4) sets of precision extensometers be installed at the head of the slide. Each extensometer set would consist of three pins firmly set in the ground along an upslope-downslope line at a spacing of about 60 feet. One pin in each set would be located above the slide scarp, another in the "graben" at the head of the slide and another downslope of the graben. The initial distance between the pins and subsequent changes would be measured by stretching a spring-loaded Invar wire between the pins and measuring changes in distance from an initial reading using a micrometer device. The extensometers are more sensitive than conventional surface hubs and, hence, would be more likely to indicate a trend of movement or strain sooner than the surface hub system, such as that presently installed.

The extensometer equipment would be that designed by Slope Indicator Company of Seattle, Washington. The cost of the extensometers, excluding labor to install them, we estimate would not exceed $1000.00. We would propose that either City or State personnel install the extensometers under our supervision and then monitor the extensometers during construction, initially on a daily basis. We would be pleased to confer with you further with regards to ours and others participation in the monitoring of the extensometer instrumentation.

With regard to a time schedule, we recommend that the instrumentation be installed promptly so that the pre-construction behavior of the slide can be observed using the instrumentation. As a guide, the instrumentation could be made available by the end of next week (August 7th and 8th) and installed the following week. We would estimate about two days would be required for two men to install the extensometer pins.

If you have any questions concerning the recommended instrumentation we can discuss the approach outlined above in greater detail.

Very truly yours,

SHANNON & WILSON, INC.

by L. Radley Squier
L. Radley Squier, P. E.

LRS:gg

8-6-69 - 9 AM
called squier to advise decision
must await outcome of further
meeting with city LO

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AUG 4 1969
OFFICE OF
STATE HIGHWAY ENGINEER

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AUG 18 1969

1729

STANLEY D. WILSON, P. E.
EARL A. SIBLEY, P. E.
WALTER L. WRIGHT, P. E.
RUBY J. DIETRICH, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE · PORTLAND · BURLINGAME

1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 · (503) 223-6147

36-11-1
7186

IN ACCOUNT WITH:

July 30, 1969

Oregon State Highway Dept.
Oregon Highway Building
Salem, Oregon 97310

Attention: Mr. F. B. Klaboe
Assistant State Highway Engineer

FOR PROFESSIONAL SERVICES:

Re: Slope Stability Investigation
Portland Zoological Gardens
Portland, Oregon

Services accomplished on above referenced project in accordance with our proposal dated February 14, 1969 and your agreement dated March 11, 1969. Progress invoice for services for period of June 1 through June 28, 1969.

Engineering Services:

Technical time charged to work: 313 hours

Salary Cost	$1839.80 x 2.5	$4599.50

Reimbursable Expense:

Air Fare	$ 31.50	
Reproduction	103.66	
Equip. Rental	140.00	
Slope Indicator (Copy Attached)	165.36	
Phone	10.45	450.97
		$5050.47

orig to Skoog
8-13-69

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AUG 1 1969
OFFICE OF
STATE HIGHWAY ENGINEER

THE SLOPE INDICATOR COMPANY
3668 ALBION PLACE NORTH
SEATTLE, WASHINGTON 98103

406

INVOICE NO. 0013

INVOICE DATE 4-7-69

SHIPPED TO same

SOLD TO
Shannon & Wilson Inc.
1675 S.W. Morrison
Portland, Oregon 97205

OUR ORDER NO.	YOUR ORDER NO.	SALESMAN	TERMS	SHIPPED VIA	PPD. OR COLL.
S-350			net 30 days		

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	Services of Slope Indicator Field Engineer to assist in the instruction and operation of the Slope Indicator Instrument.		
	1 day @	120.00/day	$120.00
	Mileage 378 @	.12/mi	45.36 ✓
			$165.36 ✓
			POSTED

PRINTED BY GRAYARC CO., INC., BROOKLYN, N. Y. 11232

William L. Shannon, P. E.
Stanley D. Wilson, P. E.
Earl A. Sibley, P. E.
Walter L. Wright, P. E.
Rudy J. Dietrich, P. E.

SHANNON & WILSON, [illegible]C.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE - PORTLAND - BURLINGAME
1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 • (503) 223-6147

Invoice 1729 Continued

IN ACCOUNT WITH:

FOR PROFESSIONAL SERVICES:

Principal Engineer	S.W. Wilson	6 hrs.	13.70	$ 82.20
	L.R. Squier	54 hrs.	7.692	415.36
	W.L. Wright	6 hrs.	11.539	69.23
Engineer & Geologist	R.J. Deacon	14½ hrs.	6.25	90.63
	P.B. Kelly	148 hrs.	4.962	734.38
Sr. Lab Tech.	A. Azzam	13 hrs.	4.818	62.63
Tech.	M. Brown	3½ hrs.	3.00	10.50
Inspectors	D. Kellum	16 hrs.	5.00	80.00
		½ hr. (OT)	7.50	3.75
Draftsman	J. Powell	11 hrs.	3.00 (old rate)	33.00
		13 hrs.	3.45 (new rate)	44.85
		3 hrs. (OT)	5.175	15.52
	C.A.MacKenzie	10½ hrs	2.452	25.75
		½ hr. (OT)	3.678	1.84
Clerical	G. Gehrke	13½ hrs.	2.509	33.87
		313		$1703.51

The above is a true and accurate list of employees, hours and rate of pay for our billing dated June 1 through June 28, 1969.

1703.51
8%
$136.29
1703.51
$1839.80

Walter L. Wright
Vice President

STANLEY D. WILSON, P. E.
EARL A. SIBLEY, P. E.
WALTER L. WRIGHT, P. E.
RUDY J. DIETRICH, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE • PORTLAND • BURLINGAME

1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 • (503) 223-6147

JUL 15 1969

26-1181

7111

July 9, 1969

Oregon State Highway Department
City of Portland
State Highway Building
Salem, Oregon 97310

Attention: Mr. F. B. Klaboe
Asst. State Hwy Engineer

Re: Slope Stability Investigation
Portland Zoological Gardens
Portland, Oregon

Gentlemen:

In the process of accomplishing the scope of work outlined in our proposal dated February 14, 1969, it is the intent of the Consultant to employ the following personnel of our staff at the indicated hourly rate in addition to those listed in our letter of March 12 and May 28, 1969.

Title	Name		Hourly Rate
Technician	Richard Ballweber		$2.885 *
	Michael Brown		3.00 *
Draftsman	Carole MacKenzie	(new rate)	2.452 *
Clerical	G. L. Gehrke	(new rate)	2.509 *

** Note: These individuals are paid overtime at the rate of 1.5 times the basic hourly rate.

We trust this information will be sufficient for your accounting needs, but if you have any questions please contact us at your convenience.

Very truly yours,

SHANNON & WILSON, INC.

by
WALTER L. WRIGHT

orig to Sthwy
7-15-69

WLW:fw

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JUL 11 1969
OFFICE OF
STATE HIGHWAY ENGINEER

Approved FBKlaboe
Asst. State Hwy. Engr.

William L. Shannon, P.E.
Stanley D. Wilson, P.E.
[illegible]
Walter L. Wright, P.E.
[illegible]

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE · PORTLAND · BURLINGAME
1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 · (503) 223-6147

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26-1121
7186

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C

July 1, 1969

952 Oregon State Highway Department
Highway Building
Salem, Oregon 97310

Attention: Mr. F. B. Klaboe
Assistant State Highway Engineer

Re: Report No. 2,
OMSI-Zoo Slide Investigation,
Portland, Oregon

Gentlemen:

Enclosed for your use and distribution are 10 copies of our Report No. 2, which presents the design studies for our recommended toe buttress for the OMSI-Zoo slide.

Submittal of the report completes our work under the existing Contract, although we would be pleased to confer with you or any members of your staff at any time with respect to our work and our Reports. The opportunity to be of service to you and the confidence that you have in our firm is appreciated.

Very truly yours,

SHANNON & WILSON, INC.

by L. Radley Squier
L. Radley Squier, P.E.

LRS:gg

NOTED
FORREST COOPER

RECEIVED
JUL 15 1969
F

William L. Shannon, P. E.
Stanley D. Wilson, P. E.
Earl A. Sibley, P. E.
Walter L. Wright, P. E.
Rudy J. Dietrich, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE · PORTLAND · BURLINGAME
[illegible]

0-406
1697

June 30, 1969

26-1181

IN ACCOUNT WITH:
7186

Oregon State Highway Department
Oregon Highway Building
Salem, Oregon 97310

Attention: Mr. F. B. Klaboe
Asst. State Hwy Engineer

FOR PROFESSIONAL SERVICES:

Re: Slope Stability Investigation
Portland,Zoological Gardens
Portland, Oregon

Services accomplished on the above referenced project in accordance with our proposal dated February 14, 1969 and your agreement dated March 11, 1969. Progress invoice for services for period of May 1 through May 31, 1969.

Engineering Services:

Technical time charged work: 560 hours Salary cost $3050.60 x 2.5			$7626.50

Reimbursable Expense:

Soil Sampling Service		$7267.12	
(copy attached)	+5%	363.36	
Soil Sampling Service		526.00	
(copy attached)	+5%	26.30	
Slope Indicator Co. (copy attached)		140.00	
Geo-Recon Inc. (copy attached)		6026.26	
Reproduction		169.27	
L.D. telephone		10.94	14,529.25
			$22,155.75

7-15-69

orig w/memo.
to [illegible]

0-406
1697

WILLIAM L. SHANNON, P. E.
STANLEY D. WILSON, P. E.
EARL A. SIBLEY, P. E.
WALTER L. WRIGHT, P. E.
RUDY J. DIETRICH, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE · PORTLAND · BURLINGAME
[illegible]

IN ACCOUNT WITH: Oregon State Highway Department

Continued from Page 1

FOR PROFESSIONAL SERVICES:

Principal Engineer	G. Yamane	3 hrs	$7.21/hr		$ 21.64
	L. R. Squier	82 "	7.692 "		630.74
	S.W. Wilson	10 "	13.70 "		137.00
Engineers & Geologists	R. J. Deacon	92 "	6.25 "		575.00
	P. B. Kelly	64½ "	4.962 "		320.06
	F. Tuttle	30½ "	4.125 "		125.82
Senior Lab Tech.	Atef Azzam	32 "	4.818 "		154.18
Technicians	R. Ballweber	27 "	2.885 "		77.90
	" "	16½ "	4.327 "	(O.T.)	71.40
	F. Haas	5 "	2.75 "		13.75
	H. Ellis	1 "	2.50 "		2.50
	M. Brown	3 "	3.00 "		9.00
Inspectors	F. Nygren	22½ "	4.212 "		94.77
	" "	1 "	6.318 "	(O.T.)	6.32
	D. Kellum	28½ "	5.00 "		142.50
	" "	4½ "	7.50 "	(O.T.)	33.75
Draftsman	J. Powell	99 "	3.00 "		297.00
	" "	8½ "	4.50		38.25
	C. MacKenzie	17 "	2.452 "		41.68
Clerical	G. Gehrke	12½ "	2.509 "		31.36
		560 hrs			$2824.62

The above is a true and accurate list of employees, hours and rate of pay for our billing dated May 1 through May 31, 1969.

Walter L. Wright, Vice Pres.

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JUL 14 1969
OFFICE OF
STATE HIGHWAY ENGINEER

JUN 5 1969

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36-1111

7186

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
June 3, 1969

SUBJECT: Opening of Westbound Lanes of Stage II Alignment to Traffic.
Highlands Interchange -
Vista Ridge Tunnel Section
Sunset Highway
Contract No. 7186

To: Mr. F. B. Klaboe
Assistant Highway Engineer
State Highway Building
Salem

Transmitted are six pages of pictures and a copy of Mr. Scrivner's report on the opening of the Stage II alignment to westbound traffic.

This change in traffic pattern was made on May 16, 1969. As far as we can determine, there have been no unfavorable reports to date.

A. E. Johnson
Metropolitan Engineer

By: J. H. Versteeg

J. H. Versteeg
Assistant Metropolitan Engineer

JHV:pb

Enc

cc: F. D. Morgan
E. L. Scrivner

NOTED
F. B. KLABOE

File ret'd to
A. E. Johnson 6-4-69

FORM E-20X—50M—6-66—13046

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
May 28, 1969

SUBJECT:

To: Memo to the File

Opening of Westbound Lanes of
Stage II Alignment to traffic.
Highlands Interchange -
Vista Ridge Tunnel Section
Sunset Highway
Multnomah County
Contract No. 7186

The following report in connection with opening of westbound lanes on Stage II alignment to traffic on May 16, 1969.

State striping crew on project at 9 A.M. Removed existing lines that would be in conflict with new traffic lanes, and marked out for new alignment.

Traffic was diverted to inside lane of stage I westbound to permit striping work to proceed. About 11:30 A.M. started painting. A fog line painted on northerly shoulder and skip line centerline. At 12:50 P.M. traffic was diverted onto both lanes of the new stage II westbound alignment.

During the morning contractor completed installation of required guard rail and construction signs revised to conform to plans.

Detour surface paved throughout. Guard rail in place along left, or southerly, shoulder throughout area where vertical and horizontal alignment was changed. Cantel barricades placed at various locations along northerly, or right, shoulder to mark any potential hazards such as light poles, sign poles, and cut banks close to roadway.

Temporary illumination in place according to construction plans, and inspection of project at 10 P.M. on May 16, 1969 showed all lights to be operating.

The following signs affecting Stage II westbound traffic were in place on May 16, 1969.

1. Oversize Advance Const./ 4 Flashing Beacons & Floodlighted.
2. Contractor Identification.
3. "SLOW" / Beacon & Floodlight on sign bridge at Sta. 48.
4. "CONSTRUCTION SPEED 35" post mounted at Sta. 65.
5. "DETOUR AHEAD" / Floodlight at Sta. 68.
6. "S-Arrow" / Floodlight at Sta. 85.

METROPOLITAN ENGINEER
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MAY 29 1969
☐ ME ☐ AME ☐ AME ☐ MOE ☐ MDE ☐ MTE

FORM E-30X—50M—6-68—13046

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
May 28, 1969

SUBJECT:

To: Memo to the File

Stage II Westbound Opening (Cont.)
Highlands Interchange -
Vista Ridge Tunnel Sec.
Sunset Highway
Multnomah County
Contract No. 7186

All planned signs and other traffic control devices affecting westbound traffic on this stage were in place according to plan, with some minor revisions in sign locations and type of installation.

Additional delineation was provided on My 22, 1969 when W-1 guide posts were installed along northerly side at locations previously protected by Cantel barricades.

Submitted with this report is set of photographs of Stage II and various signs on project taken at time detour was opened.

Ernest L. Scrivner
Ernest L. Scrivner
Resident Engineer

cc: Metropolitan Engr./ Photos.

Highlands Interchange - Vista Ridge Tunnel Sheet 1.

[illegible] F HIG
Multnomah County
Prefix 25-1181

PROJECT PHOTOS

1. Advance Construction sign at east end of project.

By Dave Willhite Date 5-16-69

2. Slow sign at east end of project.

By Dave Willhite Date 5-16-69

3. Construction speed sign at Sta. 60 Rt.

By Dave Willhite Date 5-16-69

4. Detour sign at Sta. 68 Rt.

By Dave Willhite Date 5-16-69

[illegible]
Multnomah County
Prefix 26-1181

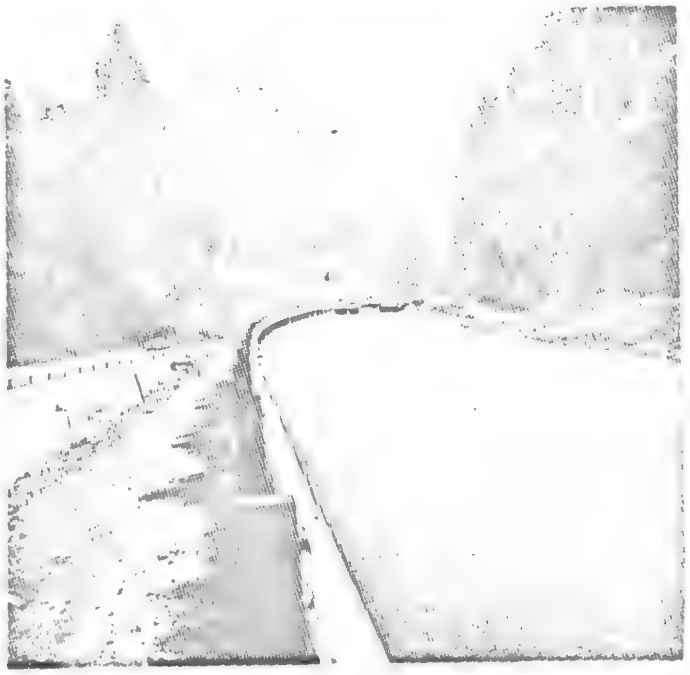
PROJECT PHOTOS

1. Stage II traffic. (Sta. 71+50 Ah.)

By Dave Willhite Date 5-16-69

2. Stage II traffic (Sta. 74+75 Ah.)

By Dave Willhite Date 5-16-69



3. Stage II traffic. (Sta. 76+50 Ah.)

By Dave Willhite Date 5-16-69

4. Stage II traffic. (Sta. 80+50 Ah.)

By Dave Willhite Date 5-16-69

Sht. 4. 3.

[illegible]
Multnomah County
Prefix 26-1181

PROJECT PHOTOS

1.

Stage II traffic. (Sta. 82+50 Ah.)

By Dave Willhite Date 5-16-69

2.

Stage II traffic. (Sta. 83+50 Ah.)

By Dave Willhite Date 5-16-69

3.

Stage II traffic. (Sta. 84+25 Ah.)

By Dave Willhite Date 5-16-69

4.

Stage II traffic. (Sta. 87 Ah.)

By Dave Willhite Date 5-16-69

HIGHLANDS INTERCHANGE-VISTA RIDGE TUNNEL
SUNSET HIGHWAY
Multnomah County
Prefix 26-1181

PROJECT PHOTOS

Sheet 4.

1. Stage II traffic. (Sta. 90 Ah.)

By Dave Willhite Date 5-16-69

2. Stage II traffic. (Sta. 91 AH.)

By Dave Willhite Date 5-16-69

3. Stage II traffic. (Sta. 92 Ah.)

[illegible]

4. Stage II traffic. (Sta. 93+25 Ah.)

Dave Willhite Date 5-16-69

HIGHLANDS INTERCHANGE-VISTA RIDGE TUNNEL
SUNSET HIGHWAY
Multnomah County
Prefix 26-1181

PROJECT PHOTOS

Sheet 5

1.

Stage II traffic. (Sta. 94 Ah.)

By Dave Willbite Date 5-16-60

2.

Stage II traffic. (Sta. 95+50 Ah.)

By Dave Willbite Date 5-16-60

3.

Stage II traffic. (Sta. 96+50 Ah.)

By Dave Willbite Date 5-16-60

4.

Stage II traffic. (Sta. 99 Ah.)

By Dave Willbite Date 5-16-60

HIGHLANDS INTERCHANGE-VISTA RIDGE TUNNEL
SUNSET HIGHWAY
Multnomah County
Prefix 26-1181

PROJECT PHOTOS

Sheet 6.

1. Stage II traffic. (Sta. 101 Ah.)

By Dave Willhite Date 5-16-69

2.

By Date

3.

4.

Date

P. E.
EARL A. SIBLEY, P. E.
WALTER L. WRIGHT, P. E.
RUDY J. DIETRICH, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE · PORTLAND · BURLINGAME
1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 · (503) 223-6147

RECEIVED
JUN 9 - 1969
FOR FILING

26-1181

Approved 6-6-69
F B Klaboe

May 28, 1969

orig. ROUTED copy to
Skoog - Query
By Asst. State Hwy. Engr.
6-6-69

Oregon State Highway Department
City of Portland
State Highway Building
Salem, Oregon 97310

Attention: Mr. F. B. Klaboe
Asst. State Hwy Engineer

Re: Slope Stability Investigation
Portland Zoological Gardens
Portland, Oregon

Gentlemen:

In the process of accomplishing the scope of work outlined in our proposal dated February 14, 1969, it is the intent of the Consultant to employ the following personnel of our staff at the indicated hourly rate in addition to those listed in our letter of March 12, 1969.

Title:	Name		Hourly Rate	
Principal Engineer	George Yamane		$7.21	
Engineers & Geologists	Mark Mitchell		5.048	
	Fred Tuttle		4.125	
Technicians	Holly L. Ellis		2.50	**
Senior Lab Technician	Atef Azzam		4.81	
Inspectors	Fred Nygren		4.212	
Draftsman	James Powell	April rate	2.75	**
		May rate	3.00	**

** Note: These individuals are paid overtime at the rate of 1.5 times the basic hourly rate.

We trust this information will be sufficient for your accounting needs, but if you have any questions please contact us at your convenience.

Very truly yours,

SHANNON & WILSON, INC.

by Walter L. Wright
WALTER L. WRIGHT

NOTED
FLOYD QUERY

Approved F B Klaboe
Asst. State Hwy. Engr.

RECEIVED
JUN 6 1969
OFFICE OF
STATE HIGHWAY ENGINEER

WLW:flw

RECEIVED
JUN 12 1969
FO[illegible]

Stanley D. Wilson, P. E.
[illegible], P. E.
Walter L. Wright, P. E.
Rudy J. [illegible], P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE - PORTLAND - BURLINGAME

1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 • (503) 223-6147

26-1181

IN ACCOUNT WITH:

7186

May 28, 1969

Oregon State Highway Department
State Highway Building
Salem, Oregon 97310

Attention: Mr. F. B. Klaboe
Asst. State Hwy Engineer

FOR PROFESSIONAL SERVICES:

Re: Slope Stability Investigation
Portland Zoological Gardens
Portland, Oregon

Services accomplished on the above referenced project in accordance with our proposal dated February 14, 1969 and your agreement dated March 11, 1969. Progress invoice for services for period of April 1 through April 26, 1969.

Engineering Services:

Technical time charged to work: 376½ hours
Salary cost $1963.93
x 2.5 $4909.83

Reimbursable Expense:

Reproduction	$124.05	
Slope Indicator Co.	175.00	
L.D. telephone	6.22	305.27
		$5215.10

orig to Skoog
6-12-69

[illegible]
F. B. KLABOE

WILLIAM L. SHANN[illegible] E.
STANLEY D. WILSON, P. E.
EARL A. SIBLEY, P. E.
WALTER L. WRIGHT, P. E.
RUDY J. DIETRICH, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE - PORTLAND - BURLINGAME
1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 • (503) 223-6147

Continued from
Page 1

IN ACCOUNT WITH: State Highway Department
State Highway Building
Salem, Oregon

FOR PROFESSIONAL SERVICES:

Principal Engineer:		L. R. Squier	30 hrs	7.692/hr	230.76
		George Yamane	2 "	7.21 "	14.42
Engineers & Geologists		Mark Mitchell	21 "	5.048 "	106.00
		Patrick B. Kelly	52½ "	4.962 "	260.51
		Robert Deacon	17 "	6.25 "	106.25
		Fred Tuttle	27½ "	4.125 "	113.44
Technicians	**	Holly L. Ellis	3 "	2.50 "	7.50
	**	Donald Kellum	127½ "	5.00 "	641.23
	**	Ray Gordon	8 "	3.404 "	34.03
	**	Franklin Haas	7 "	2.75 "	19.25
Sr. Laboratory Tech.		Atef Azzam	16 "	4.81 "	77.09
Inspector		Fred Nygren	27 "	4.212 "	113.72
Draftsman	**	James Powell	32½ "	2.75 "	92.14
Clerical	**	Gladys Gehrke	1 "	2.1058	2.11
			372 "		$1818.45

The above is a true and accurate list of employees, hours and rate of pay for our billing dated May 28, 1969.

Walter L. Wright

RECEIVED
[illegible]
OFFICE OF
STATE HIGHWAY ENGINEER

0-406

WILLIAM L. SHANNON, P. E.
STANLEY D. WILSON, P. E.
EARL A. SIBLEY, P. E.
WALTER L. WRIGHT, P. E.
RUDY J. DIETRICH, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE - PORTLAND - BURLINGAME
1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 • (503) 223-6147

APR 28 1969

FOR FILE
26-1181
7166

April 25, 1969

Porter 4-28-69
Cooper
al Johnson

Oregon State Highway Department
Highway Building
Salem, Oregon 97310

Attention: Mr. F. B. Klaboe
Assistant State Highway Engineer

Re: Progress Report No. 1
OMSI-Zoo Slide Investigation
Portland, Oregon

Dear Mr. Klaboe:

This letter presents a brief progress report of the work that has been accomplished to date with respect to our investigation of the OMSI-Zoo Slide. As outlined in our letter proposal dated February 14, 1969, the earlier phases of our study were to consist primarily of field investigations and laboratory testing. In this proposal we outlined a program of field explorations that included 8 borings, 2 slope indicator installations and a series of shallow and deep piezometers essentially at the locations of the borings. By the end of this week these explorations will have been completed. As the data from these borings were compiled it appeared to us that we should supplement these 8 holes with one additional shallow boring (10 feet) located at the toe of the slope. This extra boring has also been accomplished. We are, at the present time, taking slope indicator readings and also keeping a record of the water levels observed in our piezometers.

The samples that were obtained in our split-spoon samplers and our Shelby tubes are presently being examined in our laboratory. We should complete an examination of all samples that have been obtained in our borings toward the end of next week. Concurrently with an examination of these samples some laboratory tests have been accomplished, consisting primarily of water content and Atterberg limit determinations. We have also investigated the shear strength characteristics of the upper clayey silt materials disclosed in the borings with a series of triaxial tests. These strength data will be used subsequently in our stability analyses of the slide.

The next phase of our investigation will consist of taking the field exploration data and our laboratory test data and other available data, for example from previous investigations, and to develop a set of final boring logs and various geologic cross-sections of the hillside in question. Upon completion of these items of work we will then submit to you a report of the work accomplished as well as our final boring logs and geologic cross sections, including the results of our geophysical survey. This report, designated a Phase I Report, will be submitted in accordance with our Contract.

If you have any questions concerning our investigation, the work accomplished to date and our program of future work and studies, please do not hesitate to call us.

Very truly yours,

SHANNON & WILSON, INC.

by L. Radley Squier
L. Radley Squier, Principal Engineer

LRS:gg

RECEIVED
APR 28 1969
OFFICE OF
STATE HIGHWAY ENGINEER

APR 28 1969
FOR FIL

William L. Shannon, P. E.
Stanley D. Wilson, P. E.
[illegible]ley, P. E.
Walter L. Wright, P. E.
Rudy J. Dietrich, P. E.

SHANNON & WILSON, INC.
Soil Mechanics and Foundation Engineers
Seattle · Portland · Burlingame
[illegible] S. W. [illegible] Street · Portland, Oregon [illegible] · [illegible]

0-406
1643

April 24, 1969

IN ACCOUNT WITH:
26-1121
7186

Oregon State Highway Department
State Highway Building
Salem, Oregon 97310

Attention: Mr. F. B. Klaboe
Assistant State Hwy Engineer.

FOR PROFESSIONAL SERVICES:

Re: Slope Stability Investigation
Portland Zoological Gardens
Portland, Oregon

Services accomplished on the above referenced project in accordance with our proposal dated February 14, 1969 and your agreement dated March 11, 1969. Progress invoice for services for period of March 11 through March 29, 1969.

Engineering Services:

Technical time charged to work:	50½ hours	
Salary cost $387.74 x 2.5		$969.35

Reimbursable Expense:

L. D. telephone	$8.42	
Reproduction	3.60	12.02
		$981.37

Attach: Payroll Certification

Orig to Maison
4-28-69

NOTED
F. B.

RECEIVED
APR 28 1969
OFFICE OF
STATE HIGHWAY ENGINEER

0-406
1643

William L. Shannon, P. E.
Stanley D. Wilson, P. E.
Earl A. Sibley, P. E.
Walter L. Wright, P. E.
Rudy J. Dietrich, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE · PORTLAND · BURLINGAME

[illegible] S. W. Morrison Street, Portland, Oregon 97205 • (503) 223-6147

April 24, 1969

IN ACCOUNT WITH:

Oregon State Highway Department
State Highway Building
Salem, Oregon 97310

Attention: Mr. F. B. Klaboe
Assistant State Highway Engineer

FOR PROFESSIONAL SERVICES:

The following is a true and accurate list of employees, hours and rate of pay for our billing dated April 24, 1969, invoice 1643, job no 0-406.

Walter L. Wright, Principal	$9.259/hr	14 hours		$129.62
Robert J. Deacon, Geologist	6.25 "	8½ "		53.13
L. Radley Squier, Prin Engr.	7.692 "	21 "		161.53
Gladys L. Gehrke, Clerical	2.1068 "	7 "		14.74
		50½ hours		$359.02
			+8%	28.72
				$387.74
				x2.5
				$969.35

Shannon & Wilson, Inc.

by
Walter L. Wright

RECEIVED
APR 18 1969
FOR FILING
26-1181
7146

April 17, 1969

Mr. Rad Squier
Shannon & Wilson
1632 S. W. Morrison
Portland, Oregon 97205

Dear Mr. Squier:

I am enclosing a copy of Mr. Hill's resume of the two ASCE papers by D. D. Clarke. We have been unable to uncover the actual papers. They may, however, be located in the Metropolitan Office and I am therefore asking Mr. Johnson to look into his files and if he can find them, forward them to you.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

F. B. Klaboe
Assistant State Highway Engineer

FBK:srb

cc: A. E. Johnson - The two papers involved were printed by the ASCE and during the years 1904 and 1918, Mr. D. D. Clarke was apparently an engineer for the Portland Water Board. If you can find them, please supply copies to Mr. Squier.
Forrest Cooper
R. L. Porter
F. D. Morgan

FBK

FORM E-30X—60M—6-58—13046

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon

January 26, 1959

SUBJECT: Report on ASCE Papers
Portland Reservoir Slides

To: Mr. Tom Edwards
Construction Engineer
Office

At the request of L. H. Young on January 19th, a review was made of two ASCE papers by D. D. Clarke, an engineer for the Portland Water Board describing a landslide in 1894 - 1897 at the City reservoirs, near the Highland Interchange. These papers are dated 1904 and 1918. The attached report is a brief resume of the papers which are very extensive and complete for their time.

There is a similarity between the action of the 1894 slide and that of the recent slide at the Highland Interchange-Zoo area. Pockets of underground water have been recently tapped by horizontal drilling south of the interchange with results similar to those experienced by the City at the Reservoir Slide in 1896 - 1898.

Clay dikes have been reported by our drillers just before the water started to flow from the storage areas, just as is reported by Clarke in the shaft work and tunneling under the Reservoir Slide in 1901 - 1902.

The ASCE papers have been read by Lloyd Shaw.

I believe that the principles set forth in the papers can be used as guide lines in studying the problem of the Highland Interchange-Zoo area.

Respectively submitted,

Roy Edgerton
Research Engineer

By

W. C. Hill
Soils Research Engineer

fp
Attachment
cc: Lloyd Shaw
G. L. Decker

REPORT ON ASCE PAPERS NO. 984 AND NO. 1415
"A PHENOMENAL LAND SLIDE"
(PORTLAND WATER RESERVOIRS NOS. 3 & 4)
BY D. D. CLARKE
1904 AND 1918

This resume covers a paper presented at the ASCE April 6, 1904 meeting and a paper published in the 1918 Transactions. These papers describe a land slide which took place during 1894 - 1896 and correction action taken during 1895 to 1898 and 1901 and 1902.

LOCATION

The slide area is located west of the junction of Jeffersön Street and Canyon Road in the city of Portland. The moving area toed out at the reservoirs at elevation 150 and extended west up the slope some 1700 feet to elevation approximately 500 feet. Fig. 1. The width of the area was 1,100 feet.

A cable railroad was operating across the slide area during the initial movement and was discontinued when the reservoir work started in 1893. The railroad had suffered damage by shifting ground, but all of this was considered local. The rough terrain and unimproved condition of the area prevented these movements being tied together while the cable railroad was operating. When the area finally moved after the construction of the reservoirs, these "local" movements were found to be part of the overall pattern.

GEOLOGY

The geology of the area is extremely complex, probably dating from Pleistocene era as evidenced by a fossilized left lower molar of a camel. The shafts and borings put down in 1895 to 1898 encountered materials which were mostly classed as clays. These clays were broken down into "yellow clay" (which seemed to predominate), "blue clay", and some "dark red clay." Interspersed in these clays were layers of sands which were wet and carried water. These sand layers were not thick, varying from one to ten feet thick, but averaging about two feet thick. The logs as given are shown in Figures 2 and 3. No distinct pattern for distribution of soil types is evident, other than "yellow" clay is at the surface.

The character of bottom material was described as broken rock of small size mixed with clay. A dike of "clay and fine material" formed across the slide near the central portion of the tract. This was impervious and held back large volumes of water.

MOVEMENT

The slide apparently took place deep within the soil mass, generally along the rock contact zone. The uniformity of movement of the slide was indicated by the absence of surface cracks across the central portions of the sliding tract. Only one shaft (No. 7) indicated a movement within the soil mass. This shaft was near the edge of the slide area, and indicated the upper slide zone near the outer boundary. The transverse surface of the slide at this point (N.E. corner) was alliptical as might be expected near the lower end of the slide. There was no evidence of circular movement common to soil slides. This slide appeared to move along the rock surface on a well-defined clay seam from 50 to 112 feet below the ground surface.

The movement of the slide slowed during the pumping from the shafts and drill holes. When this pumping stopped and the water table again rose as the underground reservoir was replenished, the rate of movement increased.

INVESTIGATION

Thirty-three drill holes were put down with a "well-boring machine, a water-jet being used to remove the earth and pulverized rock." The holes were drilled through soil and overlying rock and five feet into solid bed-rock. The holes were four inches in diamete and cased with wrought-iron spikes which were driven until the lower end was thought to be in close contact with bed-rock.

Twenty-two shafts were put down after the drill logs had been studied. These were hand-dug during 1897 and 1898. The shafts were curbed or cribbed from the surface down, with depths ranging from ten feet to one hundred fifteen feet, and averaging sixty-seven feet deep. These shafts were about three and one-half feet square in cross-section.

Range lines were established, totaling twenty-nine, finally, on which monthly observations were maintained over periods of from three to five years. No plots of the findings are shown in the reports, and there is no indication of the type of ground surface motion, whether it was circular or lineal. The rate of movement at the surface was found to be equal that at the bed-rock line, however, indicating a linear slide.

A method of determining the depth of movement was devised. A one-inch diameter pipe was made up in ten-foot sections. To one of these ten-foot sections ~~was~~ fitted two 3 3/4-inch flanges, one at each end of the section. This section was lowered into the hole by extensions of the pipe until the flanges were hung up. When the four-inch casing refused to pass the flanged ten-foot sections of pipe, there was a bend that indicated the zone of earth movement. Depths determined in this manner were checked as accurate to within one or two feet during the shaft excavations, where casings were dug out.

WATER CONDITIONS

Water under pressure was found in most of the drill holes and shafts. There appeared to be no connection between the water pockets, however. Much of this water lay just above the bed-rock, and was under such pressure that it rose to the top of the shaft or casing, a distance of up to seventy-five feet.

Pumping from one shaft (No. 1) near the geographical center of the slide area removed "nearly 4,000,000 gallons of water" between August 19, 1897 and February 16, 1898. The flow into any one of the shafts after initial draining ranged from a few gallons to as high as 400 gallons a day, and varied directly with the seasons, whether rainy or dry. As the shafts were dug further out toward the borders of the slide area, less water under pressure was encountered. Thus it appeared that reservoirs, centrally located, were the main cause of the slide. These reservoirs were continuously fed by surface water, seepage, and were located at depths of from 51 to 65 feet below the ground surface.

Pumping from several of the shafts produced from 400,000 to more than 650,000 gallons of water before the flow into the shafts dropped to the point where hand bailing could handle the flow. There appeared to be no interconnection of storage zones as water in shafts one hundred feet apart were not reported as being affected by pumping from one of the shafts.

In the discussion of the paper, Mr. George L. Dillman makes a statement that is particularly pertinent. "It (the investigation) seems to make plain that the water does the damage, not so much by its volume or weight, as its pressure, and, at the surface of motion, acts like a myriad of jack-screws to lift, and at the same time lubricate it, the same pressure forcing the water into and through otherwise impervious shale." This certainly is a forerunner of a description of "excessive pore water pressures."

REMEDIAL DRAINAGE

In 1900 a system of tunnels 2,507 feet long, connecting the shafts was begun as shown in Figure 4. These tunnels were "3'2" wide on top, 3'9" wide at the bottom, with a clear height of 5'4". The timbers used were 6" X 8" spaced at three-foot centers with 2 X 8 lagging." They were completed in 1901.

The tunnel operations were normal until the clay dike in the central portion of the slide tract was reached when more than 1,800,000 gallons of water were tapped at the rate of about 25,000 gallons a day.

Further up the slide area another stiff clay dike was encountered that retained a water reservoir that flowed "at the rate of 160,000 gallons per day for a number of days."

Upon the completion of the tunnels, the movement of the slide practically ceased.

In 1902 the tunnels were filled in after concrete conduits had been installed as permanent drainage structures. These conduits were 28 inches in diameter and were built entirely inside the timber frames of the tunnel. The type of backfill material was not specified. At intervals of 50 feet, a concrete cut-off wall, six inches thick and eighteen inches high, was built across the tunnel from side to side to ~~act~~ cut off any flow of water along the sewer walls. A three-inch opening into the bottom of the invert at the cut-off wall bled off the excess water.

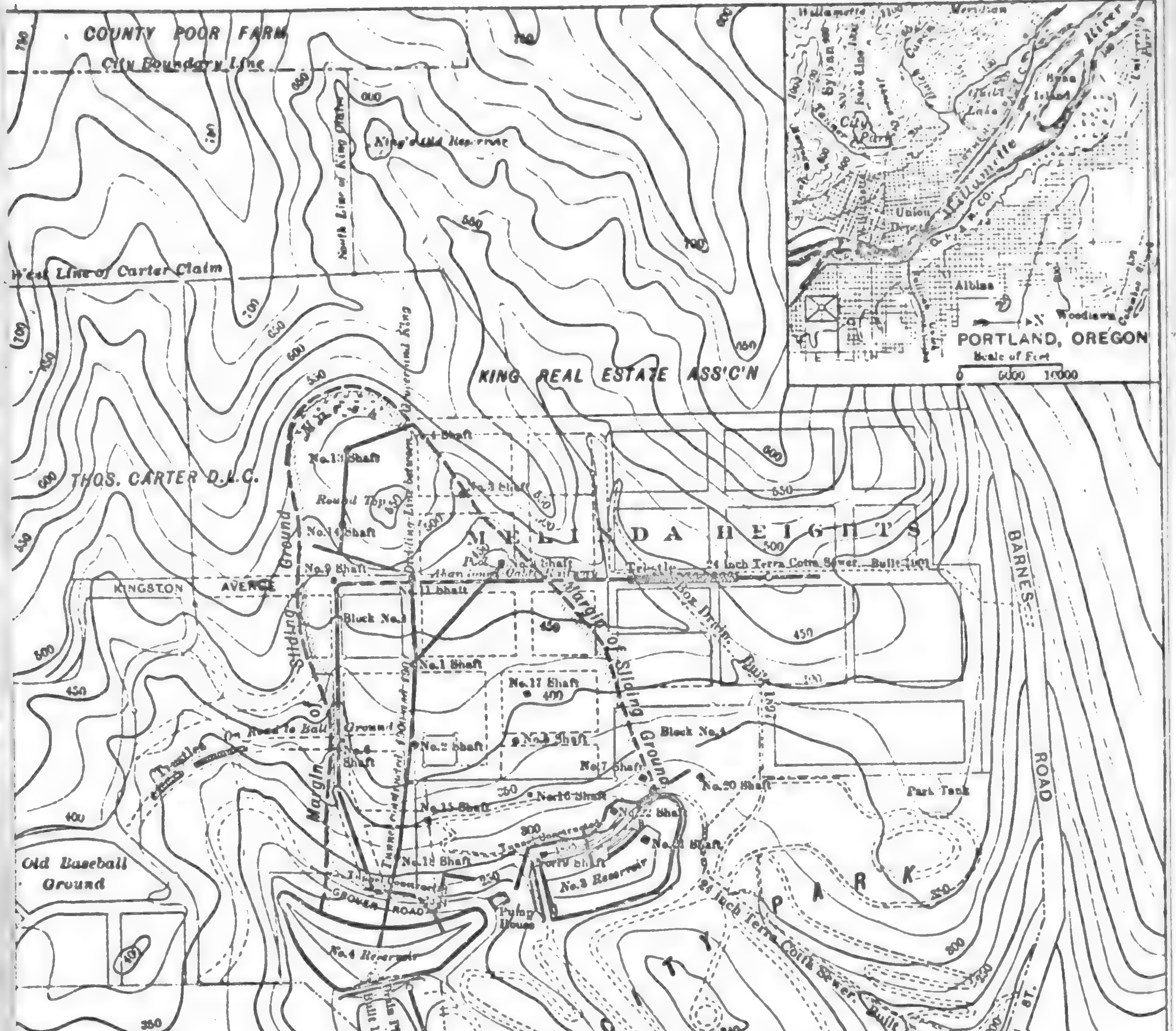
CONCLUSION

The conclusions offered by George L. Dillman in the 1918 paper sum up the problem very neatly. He says "the cause is water....the cure is drainage.... There are no exceptions, though, at first sight, some may appear."

W. C. Hill
Soils Research Engineer

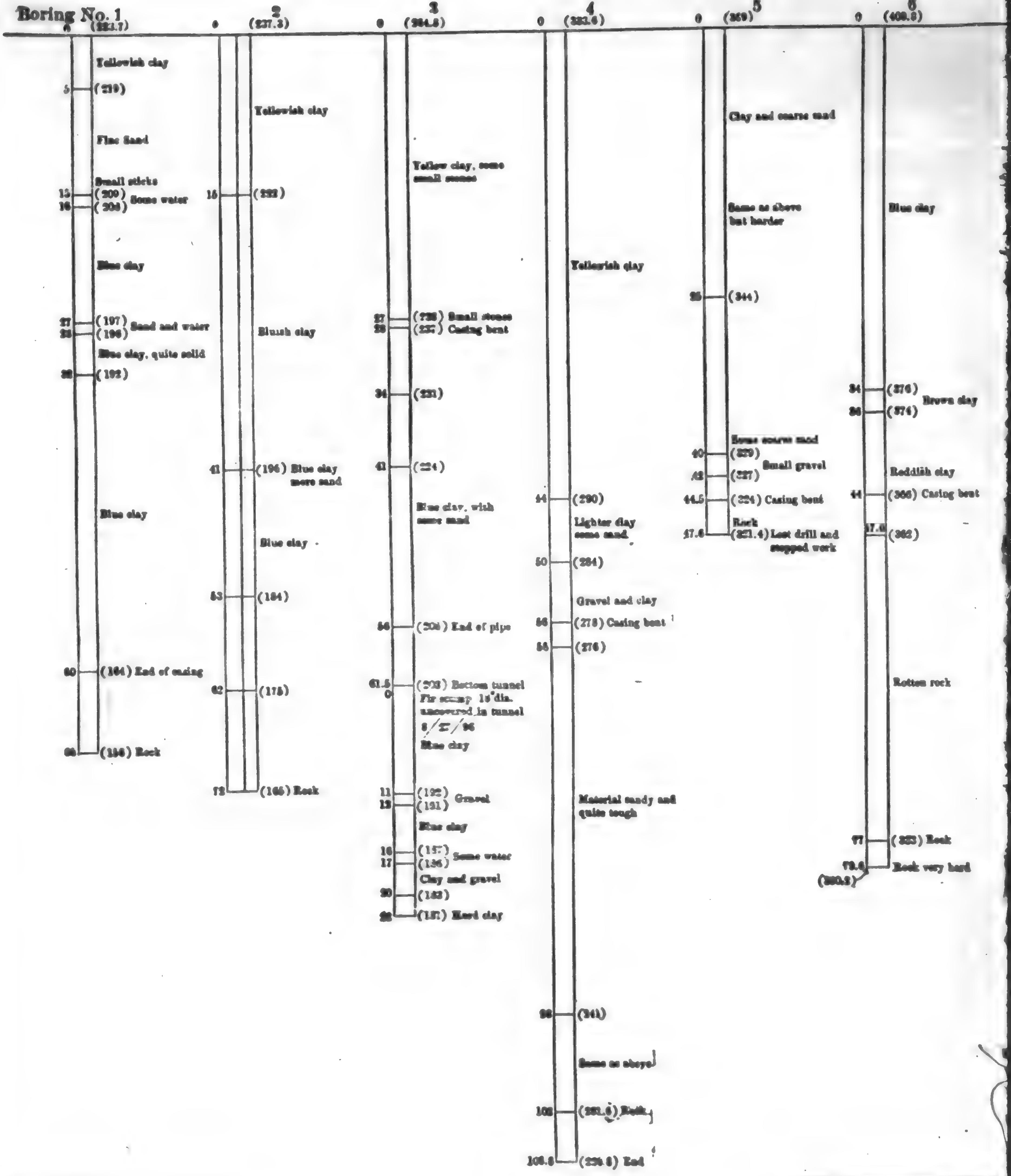
fp

January 23, 1959

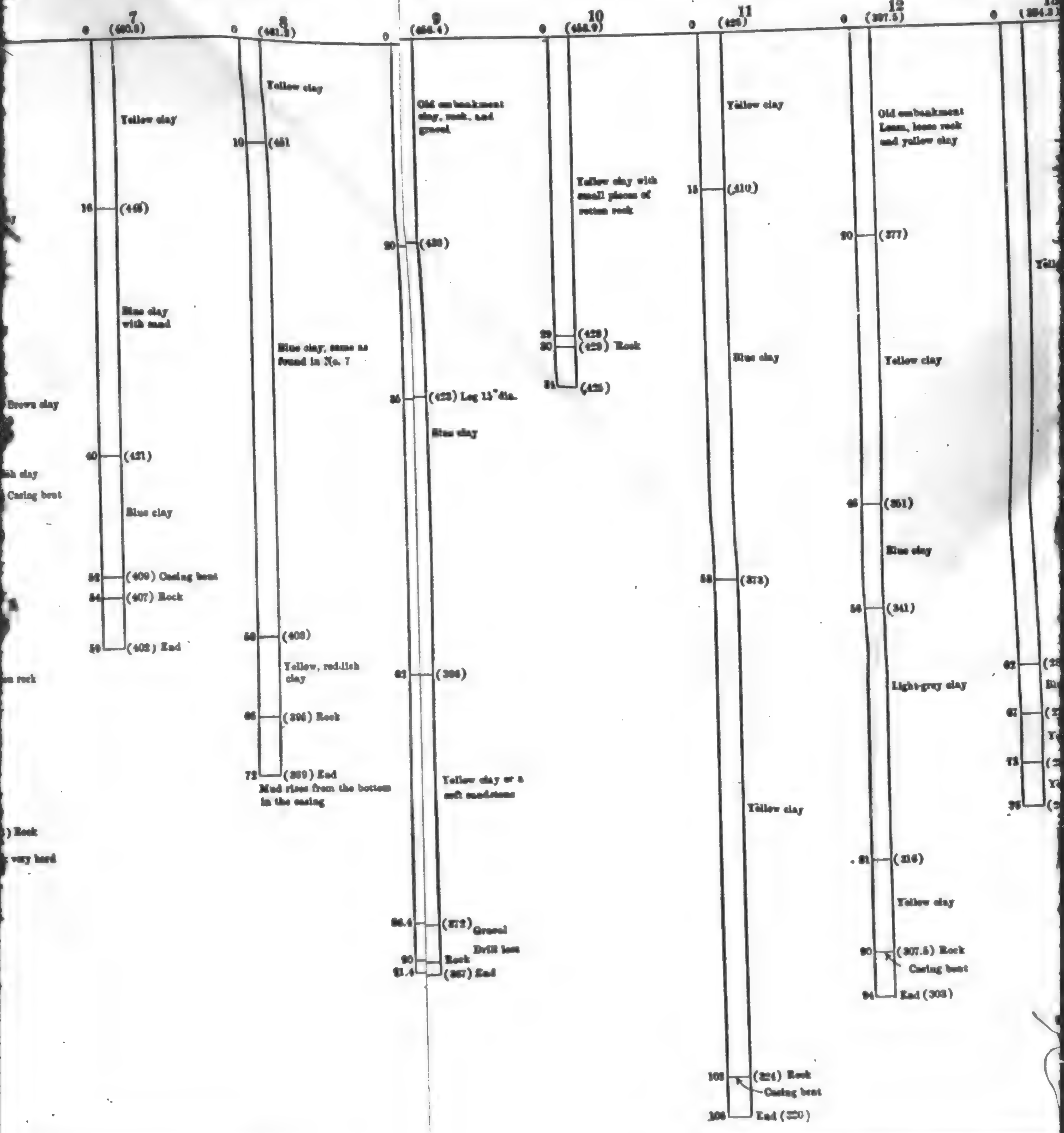

COUNTY POOR FARM
City Boundary Line
King's Hill Reservoir
South Line of King Claim
West Line of Carter Claim
KING REAL ESTATE ASS'C'N
THOS. CARTER D.L.C.
No. 13 Shaft
Round Top
No. 14 Shaft
No. 9 Shaft
No. 8 Shaft
No. 4 Shaft
Dividing Line between Carter and King
Abandoned Cable Railway
Trestle
24 inch Terra Cotta Sewer, Built 1891
Box Drain
MELINDA HEIGHTS
KINGSTON AVENUE
Sliding Ground
Margin of Sliding Ground
Block No. 3
Block No. 4
No. 11 Shaft
No. 1 Shaft
No. 17 Shaft
No. 2 Shaft
No. 5 Shaft
No. 6 Shaft
No. 7 Shaft
No. 20 Shaft
No. 15 Shaft
No. 16 Shaft
No. 12 Shaft
No. 19 Shaft
Tunnel
Tunnel Constructed
On Road to Ball Ground
Trestles
Old Baseball Ground
GROVER ROAD
Pump House
No. 3 Reservoir
No. 4 Reservoir
24 inch Terra Cotta Sewer, Built 1891
Park Tank
CITY PARK
BARNES ROAD
WASHINGTON ST.
PARK AVE.
JEFFERSON ST.
Tanner Creek CANON ROAD
Sewer
Willamette
Meridian
Sylvan
City Park
Tanner
Union Depot
Willamette River
Guild's Lake
Hayden Island
Albina
Woodlawn
PORTLAND, OREGON
Scale of Feet
0
5000
10000
Scale of Feet
0
100
200
300
400
500
600
True Meridian
NOTE: Contours indicate elevations in feet above mean low water in Willamette River

MAP OF SLIDING LAND AT CITY PARK RESERVOIRS, PORTLAND, OREGON. SHOWING LOCATION OF DRAINAGE TUNNEL AND SHAFTS.

Fig. 1

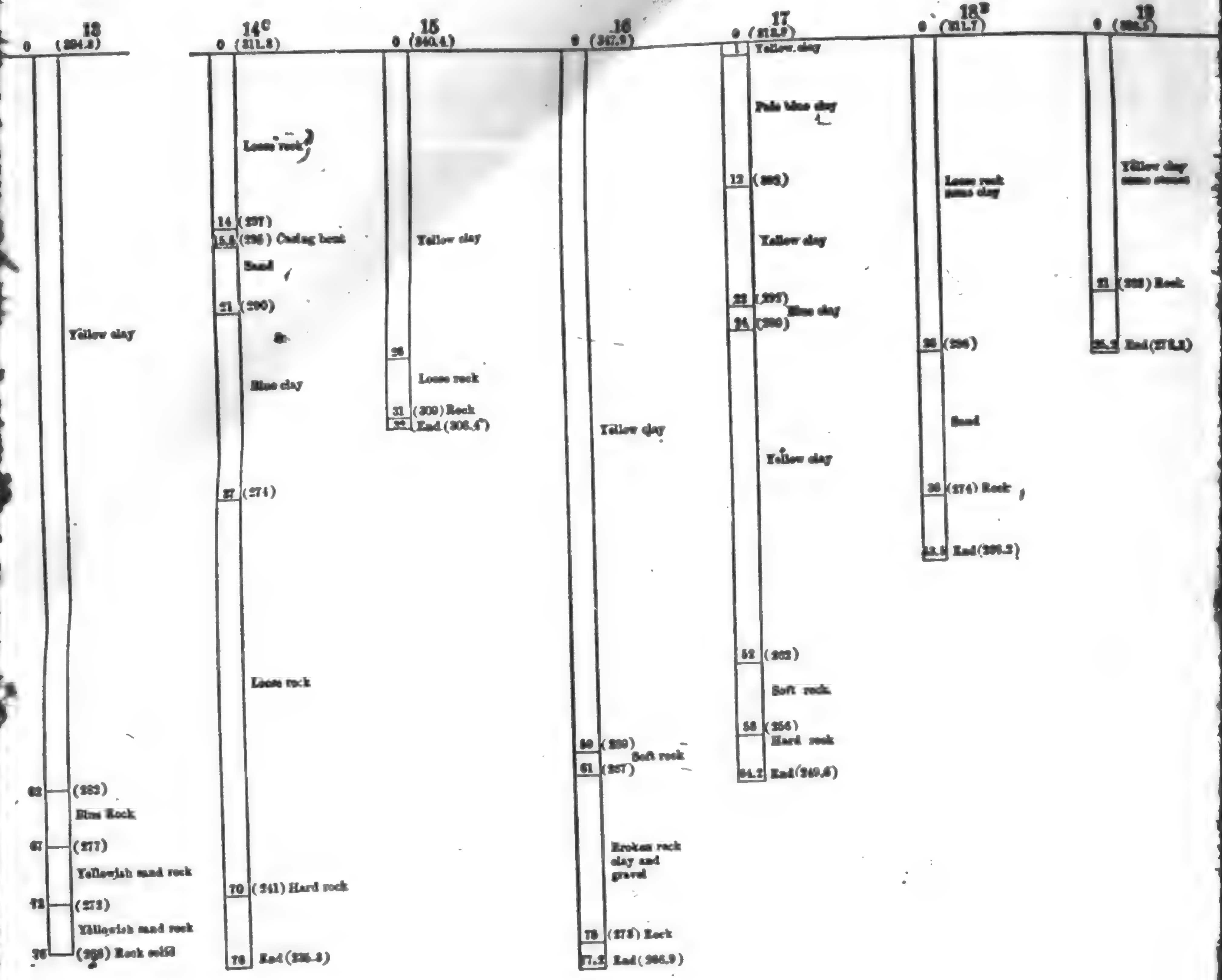

Boring No. 1
0
(223.7)
Yellowish clay
5
(219)
Fine Sand
Small sticks
15
(209)
16
(208)
Some water
Blue clay
27
(197)
28
(196)
Sand and water
Blue clay, quite solid
32
(192)
Blue clay
60
(164) End of casing
68
(156) Rock
2
0
(237.3)
Yellowish clay
15
(222)
Bluish clay
41
(196) Blue clay more sand
Blue clay
53
(184)
62
(175)
72
(165) Rock
3
0
(264.6)
Yellow clay, some small stones
27
(238) Small stones
28
(237) Casing bent
34
(231)
41
(224)
Blue clay, with some sand
56
(208) End of pipe
61.5
0
(203) Bottom tunnel
Fir stump 15" dia. uncovered in tunnel 8/X/96
Blue clay
11
(192)
12
(191)
Gravel
Blue clay
16
(187)
17
(186)
Some water
Clay and gravel
20
(183)
22
(181) Hard clay
4
0
(333.6)
Yellowish clay
44
(290)
Lighter clay some sand
50
(284)
Gravel and clay
56
(278) Casing bent
58
(276)
Material sandy and quite tough
93
(241)
Same as above
102
(231.6) Rock
108.8
(224.8) End
5
0
(369)
Clay and coarse sand
Same as above but harder
25
(344)
Some coarse sand
40
(329)
42
(327)
Small gravel
44.5
(324) Casing bent
Rock
47.6
(321.4) Lost drill and stopped work
6
0
(409.8)
Blue clay
34
(376)
36
(374)
Brown clay
Reddish clay
44
(366) Casing bent
47.6
(362)
Rotten rock
77
(333) Rock
79.6
(330.2)
Rock very hard

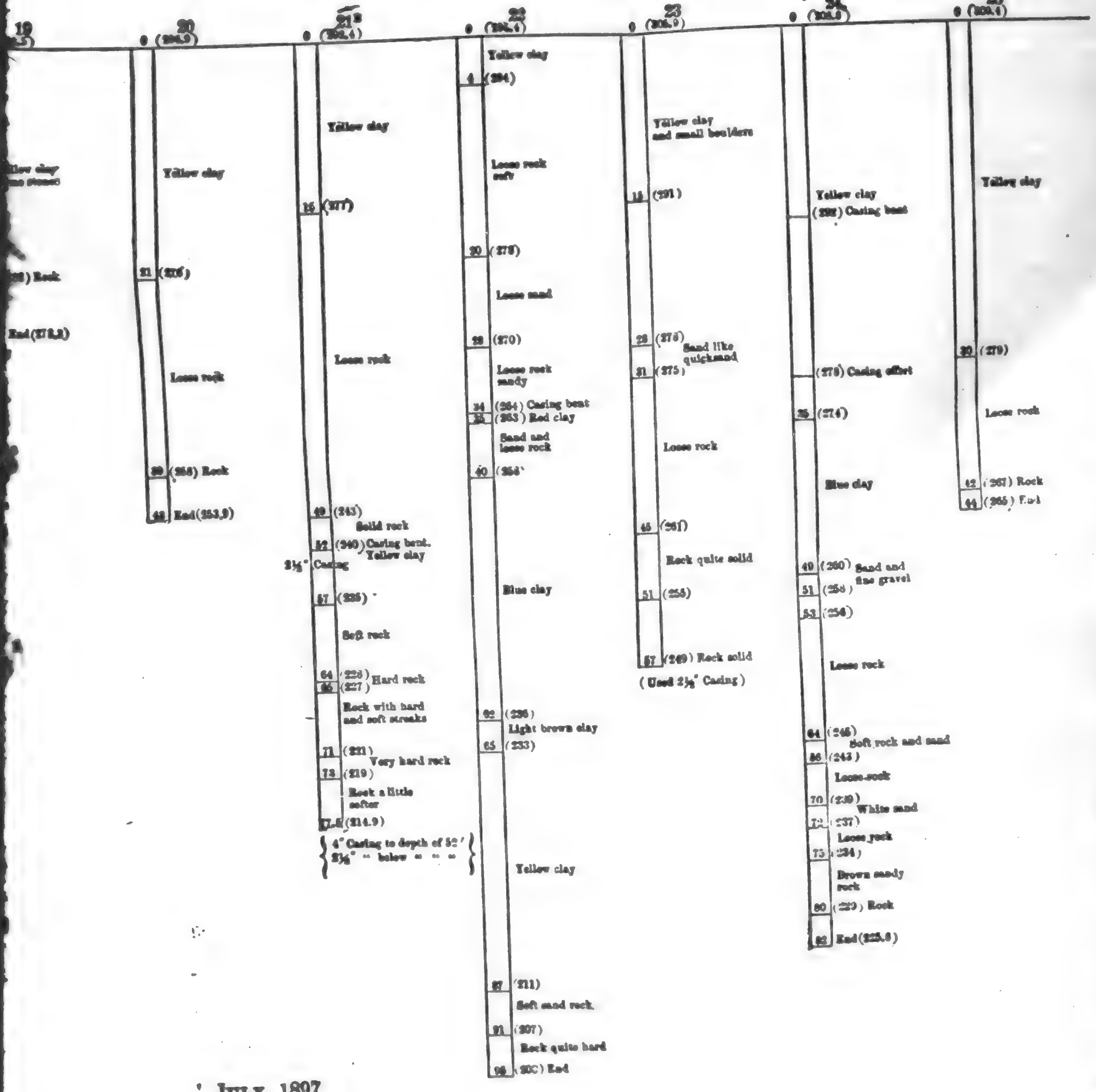
BORINGS WEST OF RESERVOIRS



y
Brown clay
ish clay
Casing bent
on rock
) Rock
very hard
7
0
(460.9)
Yellow clay
16 (446)
Blue clay with sand
40 (421)
Blue clay
52 (409) Casing bent
54 (407) Rock
59 (402) End
8
0
(461.3)
Yellow clay
10 (451)
Blue clay, same as found in No. 7
58 (403)
Yellow, reddish clay
66 (395) Rock
72 (389) End
Mud rises from the bottom in the casing
9
0
(458.4)
Old embankment clay, rock, and gravel
20 (438)
36 (422) Log 15" dia.
Blue clay
62 (396)
Yellow clay or a soft sandstone
86.4 (372) Gravel
Drill lost
90 Rock
91.4 (367) End
10
0
(458.9)
Yellow clay with small pieces of rotten rock
29 (428)
30 (429) Rock
34 (425)
11
0
(425)
Yellow clay
15 (410)
Blue clay
53 (372)
Yellow clay
102 (324) Rock
Casing bent
106 End (320)
12
0
(397.5)
Old embankment Loam, loose rock and yellow clay
20 (377)
Yellow clay
46 (351)
Blue clay
56 (341)
Light-grey clay
81 (316)
Yellow clay
90 (307.5) Rock
Casing bent
94 End (303)
13
0
(394.3)
Yell
62
Bl
67
Y
72
Y
76

VOIRS NOS 3 AND 4 MADE IN 1895 AND 1896.

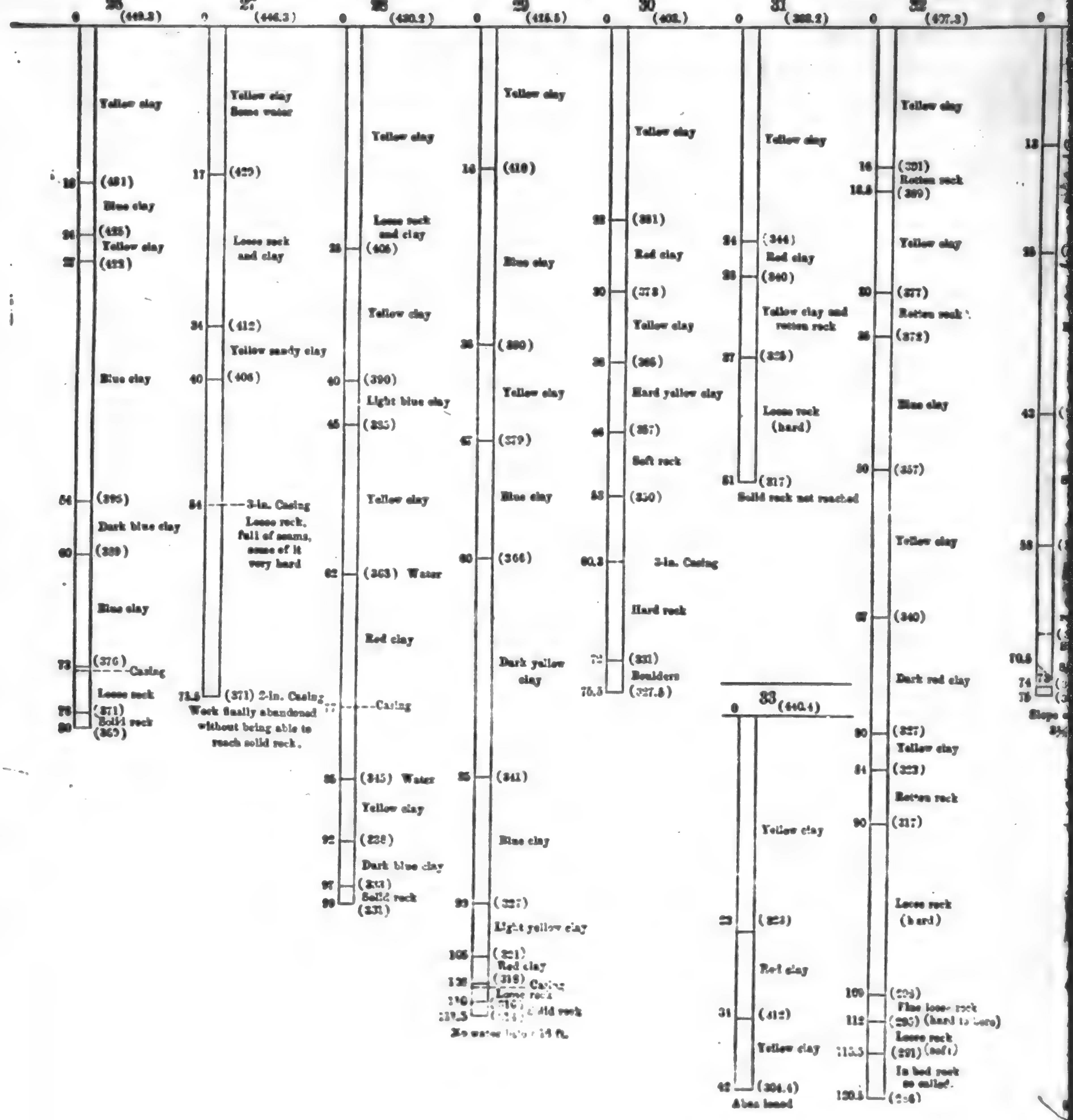

13
0 (294.3)
Yellow clay
62 (232)
Blue Rock
67 (227)
Yellowish sand rock
72 (222)
Yellowish sand rock
76 (218) Rock solid
14C
0 (311.3)
Loose rock
14 (297)
15.5 (296) Casing bent
Sand
21 (290)
Blue clay
37 (274)
Loose rock
70 (241) Hard rock
75 End (236.3)
15
0 (330.4)
Yellow clay
26
Loose rock
31 (300) Rock
32 End (298.4)
16
0 (347.9)
Yellow clay
60 (288)
Soft rock
61 (287)
Broken rock clay and gravel
75 (273) Rock
77.2 End (270.7)
17
0 (313.8)
1 Yellow clay
Pale blue clay
12 (302)
Yellow clay
22 (292)
Blue clay
24 (290)
Yellow clay
52 (262)
Soft rock
58 (256)
Hard rock
64.2 End (249.6)
18B
0 (311.7)
Loose rock some clay
26 (286)
Sand
38 (274) Rock
42.5 End (269.2)
19
0 (303.8)
Yellow clay some stones
21 (283) Rock
25.5 End (278.3)


19
(.5)
llow clay
ne stones
8) Rock
End(278.2)
20
0 (296.9)
Yellow clay
21 (276)
Loose rock
39 (258) Rock
42 End(253.9)
21
0 (292.4)
Yellow clay
16 (277)
Loose rock
49 (243)
Solid rock
52 (240) Casing bent.
Yellow clay
2½" Casing
57 (235)
Soft rock
64 (228) Hard rock
65 (227)
Rock with hard
and soft streaks
71 (221)
Very hard rock
73 (219)
Rock a little
softer
77.5 (214.9)
4" Casing to depth of 52'
2½" " below " " "
22
0 (298.4)
Yellow clay
4 (294)
Loose rock
soft
20 (278)
Loose sand
28 (270)
Loose rock
sandy
34 (264) Casing bent
35 (263) Red clay
Sand and
loose rock
40 (258)
Blue clay
62 (236)
Light brown clay
65 (233)
Yellow clay
87 (211)
Soft sand rock
91 (207)
Rock quite hard
98 (200) End
23
0 (306.9)
Yellow clay
and small boulders
15 (291)
28 (278)
Sand like
quicksand
31 (275)
Loose rock
45 (261)
Rock quite solid
51 (255)
57 (249) Rock solid
(Used 2½" Casing)
24
0 (308.8)
Yellow clay
(298) Casing bent
(278) Casing offset
35 (274)
Blue clay
49 (260) Sand and
fine gravel
51 (258)
53 (256)
Loose rock
64 (245)
Soft rock and sand
66 (243)
Loose rock
70 (239)
White sand
72 (237)
Loose rock
75 (234)
Brown sandy
rock
80 (229) Rock
83 End(225.8)
25
0 (309.4)
Yellow clay
30 (279)
Loose rock
42 (267) Rock
44 (265) End

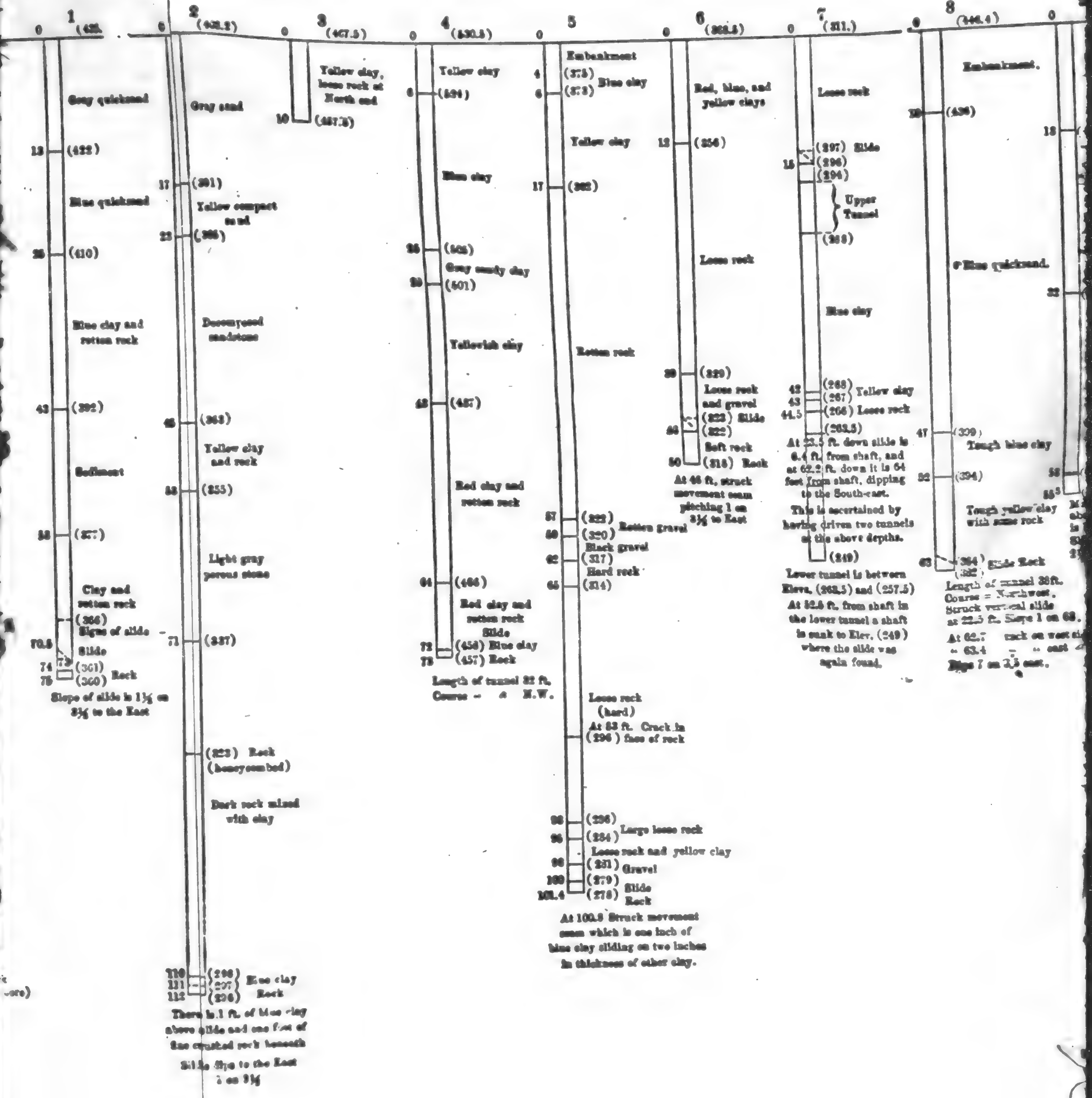
JULY. 1897.

Fig. 2

BORINGS

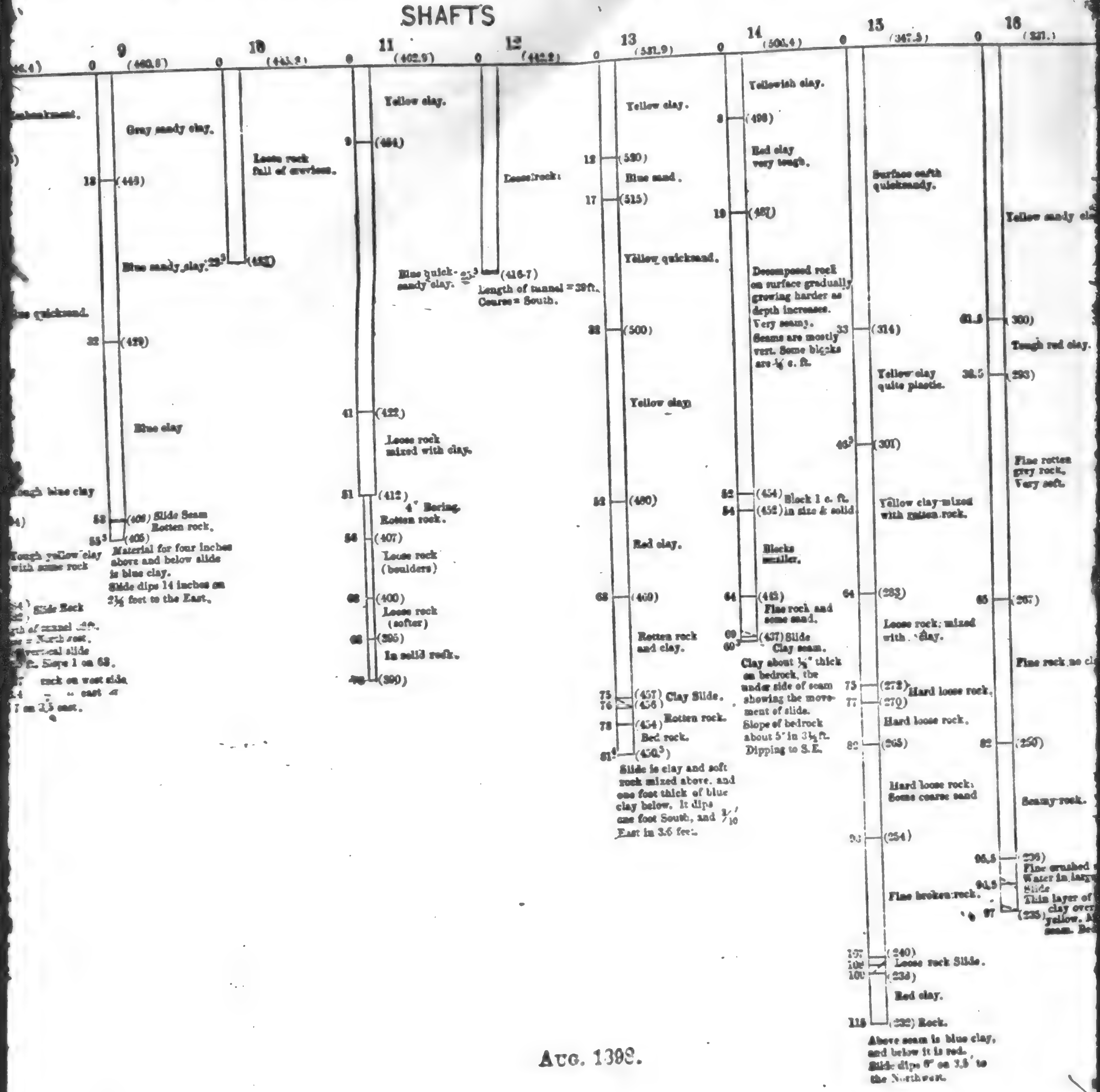

26 (449.3)
0
Yellow clay
19 (431)
Blue clay
24 (425)
Yellow clay
27 (422)
Blue clay
54 (395)
Dark blue clay
60 (389)
Blue clay
73 (376)
Casing
Loose rock
78 (371)
Solid rock
80 (369)
27 (446.3)
0
Yellow clay
Some water
17 (429)
Loose rock and clay
34 (412)
Yellow sandy clay
40 (406)
54 3-in. Casing
Loose rock, full of seams, some of it very hard
73.5 (371) 2-in. Casing
Work finally abandoned without being able to reach solid rock.
28 (430.2)
0
Yellow clay
25 (405)
Loose rock and clay
Yellow clay
40 (390)
Light blue clay
45 (385)
Yellow clay
62 (363) Water
Red clay
77 Casing
85 (345) Water
Yellow clay
92 (338)
Dark blue clay
97 (333)
Solid rock
99 (331)
29 (426.5)
0
Yellow clay
16 (410)
Blue clay
36 (390)
Yellow clay
47 (379)
Blue clay
60 (366)
Dark yellow clay
85 (341)
Blue clay
99 (327)
Light yellow clay
105 (321)
Red clay
108 (319) Casing
Loose rock
110 (316)
Solid rock
No water below 14 ft.
30 (402.)
0
Yellow clay
22 (381)
Red clay
30 (378)
Yellow clay
36 (366)
Hard yellow clay
46 (357)
Soft rock
53 (350)
60.3 3-in. Casing
Hard rock
73 (331)
Boulders
75.5 (327.5)
31 (368.2)
0
Yellow clay
24 (344)
Red clay
28 (340)
Yellow clay and rotten rock
37 (325)
Loose rock (hard)
51 (317)
Solid rock not reached
32 (407.3)
0
Yellow clay
16 (391)
Rotten rock
18.5 (389)
Yellow clay
30 (377)
Rotten rock
35 (372)
Blue clay
50 (357)
Yellow clay
67 (340)
Dark red clay
80 (327)
Yellow clay
84 (323)
Rotten rock
90 (317)
Loose rock (hard)
109 (298)
Fine loose rock
112 (295) (hard to bore)
Loose rock (soft)
116.5 (291)
In bed rock so called.
120.5 (286)
33 (440.4)
0
Yellow clay
23 (423)
Red clay
31 (412)
Yellow clay
42 (304.4)
Abandoned
0
13
28
43
58
70.5
74
75

BORINGS MADE AND SHAFTS SUNK WEST OF RESERVOIRS



1 (425)
0
Gray quicksand
13 (422)
Blue quicksand
25 (410)
Blue clay and rotten rock
43 (392)
Sediment
58 (377)
Clay and rotten rock
(366)
Signs of slide
70.5 Slide
74 (361)
75 (360) Rock
Slope of slide is 1½ on 3½ to the East
2 (402.2)
0
Gray sand
17 (391)
Yellow compact sand
23 (386)
Decomposed sandstone
45 (363)
Yellow clay and rock
53 (255)
Light gray porous stone
71 (337)
(323) Rock (honeycombed)
Dark rock mixed with clay
110 (298) Blue clay
111 (297)
112 (296) Rock
There is 1 ft. of blue clay above slide and one foot of fine crushed rock beneath
Slide Slope to the East 1 on 3½
3 (467.5)
0
Yellow clay, loose rock at North end
10 (457.5)
4 (530.5)
0
Yellow clay
6 (524)
Blue clay
25 (505)
Gray sandy clay
30 (501)
Yellowish clay
43 (487)
Red clay and rotten rock
64 (466)
Red clay and rotten rock
Slide
72 (458) Blue clay
73 (457) Rock
Length of tunnel 32 ft.
Course — " N.W.
5
0
Embankment
4 (375)
6 (373) Blue clay
Yellow clay
17 (362)
Rotten rock
57 (322)
59 (320) Rotten gravel
Black gravel
62 (317)
Hard rock
65 (314)
Loose rock (hard)
At 83 ft. Crack in
(296) face of rock
93 (286) Large loose rock
95 (284)
Loose rock and yellow clay
98 (281) Gravel
100 (279) Slide
101.4 (278) Rock
At 100.8 Struck movement seam which is one inch of blue clay sliding on two inches in thickness of other clay.
6 (368.5)
0
Red, blue, and yellow clays
12 (356)
Loose rock
39 (329)
Loose rock and gravel
(323) Slide
46 (322)
Soft rock
50 (318) Rock
At 46 ft. struck movement seam pitching 1 on 3½ to East
7 (311.)
0
Loose rock
(297) Slide
15 (296)
(294)
Upper Tunnel
(268)
Blue clay
42 (268) Yellow clay
43 (267)
44.5 (266) Loose rock
(262.5)
At 23.5 ft. down slide is 6.4 ft. from shaft, and at 62.2 ft. down it is 64 feet from shaft, dipping to the South-east.
This is ascertained by having driven two tunnels at the above depths.
(249)
Lower tunnel is between Elevs. (262.5) and (257.5)
At 32.5 ft. from shaft in the lower tunnel a shaft is sunk to Elev. (249) where the slide was again found.
8 (446.4)
0
Embankment.
10 (436)
Blue quicksand.
47 (399)
Tough blue clay
52 (394)
Tough yellow clay with some rock
63 (384) Slide Rock
(382)
Length of tunnel 38ft.
Course = Northwest.
Struck vertical slide at 22.5 ft. Slope 1 on 63.
At 62.7 rock on west si
" 63.4 " " east
Slope 7 on 2.5 east.
9
0
13
32
58
55.5

ERVOIRS NOS. 3 AND 4 IN 1897 AND 1898.


SHAFTS
9
10
11
12
13
14
15
16
(460.8)
(445.2)
(402.9)
(442.2)
(531.9)
(503.4)
(347.5)
(331.)
Embankment.
Blue quicksand.
Tough blue clay
Tough yellow clay with some rock
Slide Rock
Gray sandy clay.
18 (443)
Blue sandy clay.
32 (429)
Blue clay
53 (408) Slide Seam
Rotten rock.
55³ (406)
Material for four inches above and below slide is blue clay.
Slide dips 14 inches on 2½ feet to the East.
Loose rock full of crevices.
22³ (422)
Yellow clay.
9 (494)
41 (422)
Loose rock mixed with clay.
51 (412)
4" Boring.
Rotten rock.
56 (407)
Loose rock (boulders)
63 (400)
Loose rock (softer)
68 (395)
In solid rock.
(390)
Loose rock.
Blue quick-sandy clay.
25³ (416.7)
Length of tunnel = 39 ft.
Course = South.
Yellow clay.
12 (520)
Blue sand.
17 (515)
Yellow quicksand.
32 (500)
Yellow clay.
52 (480)
Red clay.
63 (469)
Rotten rock and clay.
75 (457) Clay Slide.
76 (456)
Rotten rock.
78 (454)
Bed rock.
81⁵ (450.5)
Slide is clay and soft rock mixed above, and one foot thick of blue clay below. It dips one foot South, and 1/10 East in 3.6 feet.
Yellowish clay.
8 (496)
Red clay very tough.
19 (487)
Decomposed rock on surface gradually growing harder as depth increases.
Very seamy.
Seams are mostly vert. Some blocks are ¼ c. ft.
52 (454) Block 1 c. ft.
54 (452) in size & solid.
Blocks smaller.
64 (442)
Fine rock and some sand.
69 (437) Slide
Clay seam.
Clay about ½" thick on bedrock, the under side of seam showing the movement of slide.
Slope of bedrock about 5" in 3½ ft.
Dipping to S. E.
Surface earth quicksandy.
33 (314)
Yellow clay quite plastic.
46³ (301)
Yellow clay mixed with rotten rock.
64 (283)
Loose rock; mixed with clay.
75 (272) Hard loose rock.
77 (270)
Hard loose rock.
82 (265)
Hard loose rock; Some coarse sand
93 (254)
Fine broken rock.
107 (240)
Loose rock Slide.
109 (238)
Red clay.
115 (232) Rock.
Above seam is blue clay, and below it is red.
Slide dips 6" on 3.5' to the Northwest.
Yellow sandy cl
31.5 (300)
Tough red clay.
38.5 (293)
Fine rotten grey rock.
Very soft.
65 (267)
Fine rock no cl
82 (250)
Seamy rock.
96.5 (236)
Fine crushed
Water in larg
Slide
This layer of
clay over
yellow.
seam.
97 (235)

Aug. 1898.

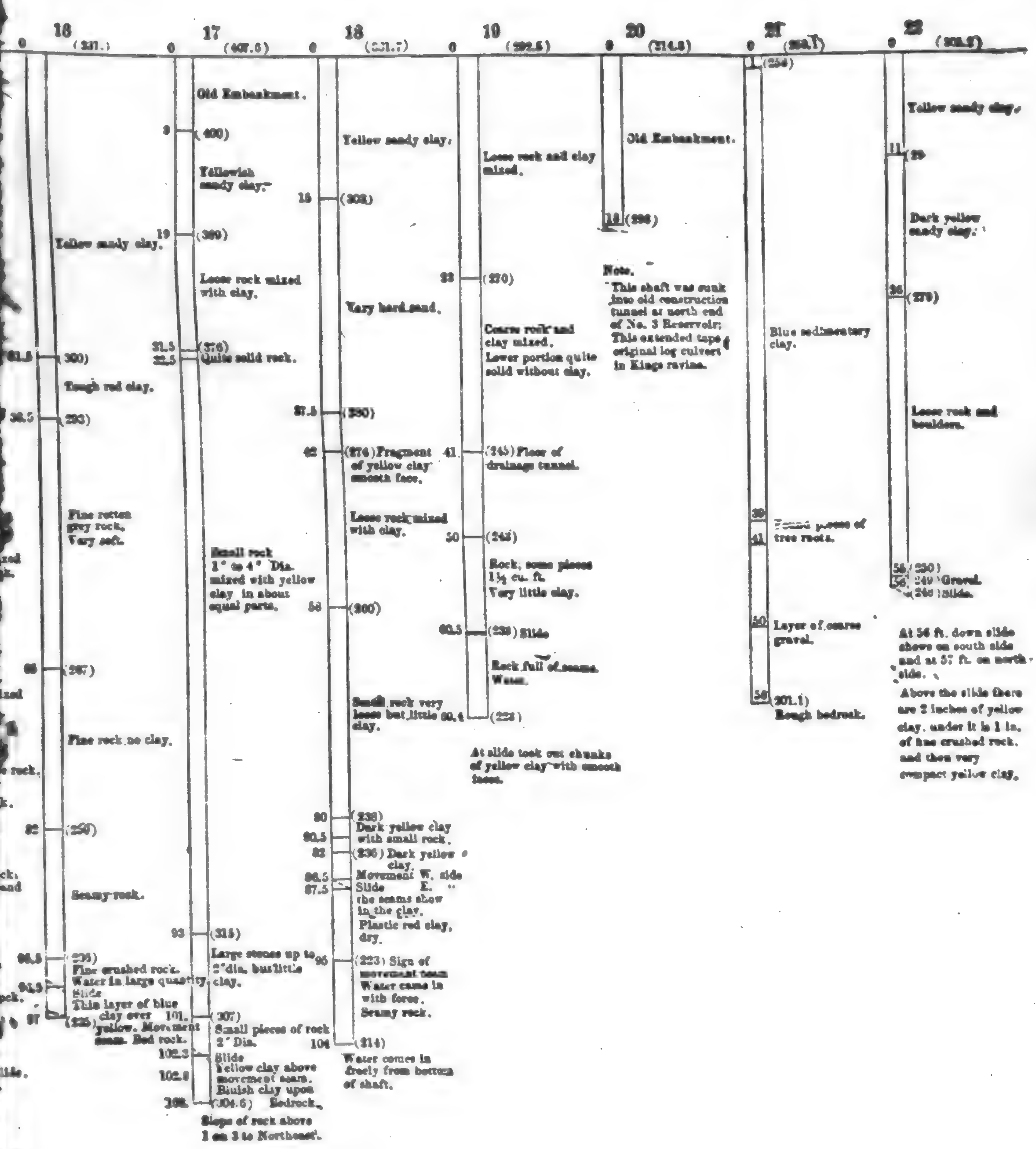

16 (331.)
17 (407.6)
18 (317.7)
19 (292.5)
20 (314.8)
21 (257.1)
22 (305.9)
0
Yellow sandy clay.
31.5 (300)
Tough red clay.
38.5 (293)
Fine rotten grey rock, Very soft.
66 (265)
Fine rock no clay.
82 (250)
Seamy rock.
96.5 (236)
Fine crushed rock.
Water in large quantity.
96.5 Slide
This layer of blue clay over yellow. Movement seam. Bed rock.
97 (235)
Old Embankment.
8 (400)
Yellowish sandy clay.
19 (389)
Loose rock mixed with clay.
31.5 (376)
32.5 Quite solid rock.
Small rock 1" to 4" Dia. mixed with yellow clay in about equal parts.
93 (315)
Large stones up to 2" dia. but little clay.
101 (307)
Small pieces of rock 2" Dia.
102.3 Slide
102.8 Yellow clay above movement seam. Bluish clay upon
103 (304.6) Bedrock.
Slope of rock above 1 on 3 to Northeast.
Yellow sandy clay.
15 (302)
Very hard sand.
37.5 (280)
42 (276) Fragment of yellow clay smooth face.
Loose rock mixed with clay.
58 (260)
Small rock very loose but little clay.
90 (228)
Dark yellow clay with small rock.
90.5
92 (226) Dark yellow clay.
96.5 Movement W. side
97.5 Slide E. "
the seams show in the clay.
Plastic red clay, dry.
95 (223) Sign of movement seam
Water came in with force.
Seamy rock.
104 (214)
Water comes in freely from bottom of shaft.
Loose rock and clay mixed.
23 (270)
Coarse rock and clay mixed.
Lower portion quite solid without clay.
41 (245) Floor of drainage tunnel.
50 (242)
Rock, some pieces 1½ cu. ft.
Very little clay.
60.5 (232) Slide
Rock full of seams.
Water.
69.4 (223)
At slide took out chunks of yellow clay with smooth faces.
Old Embankment.
18 (296)
Note.
This shaft was sunk into old construction tunnel at north end of No. 3 Reservoir; This extended tape to original log culvert in Kings ravine.
1 (256)
Blue sedimentary clay.
39
41 Found pieces of tree roots.
50 Layer of coarse gravel.
56 (201.1) Rough bedrock.
Yellow sandy clay.
11 (29
Dark yellow sandy clay.
26 (279)
Loose rock and boulders.
56 (250)
56 (249) Gravel.
(248) Slide.
At 56 ft. down slide shows on south side and at 57 ft. on north side.
Above the slide there are 2 inches of yellow clay, under it is 1 in. of fine crushed rock, and then very compact yellow clay.

Fig. 3

DIAGRAM SHOWING RANGE LINES ESTABLISHED IN DECEMBER, 1899, COVERING THE ENTIRE AREA OF MOVING GROUND, AND OBSERVED SINCE THAT DATE.

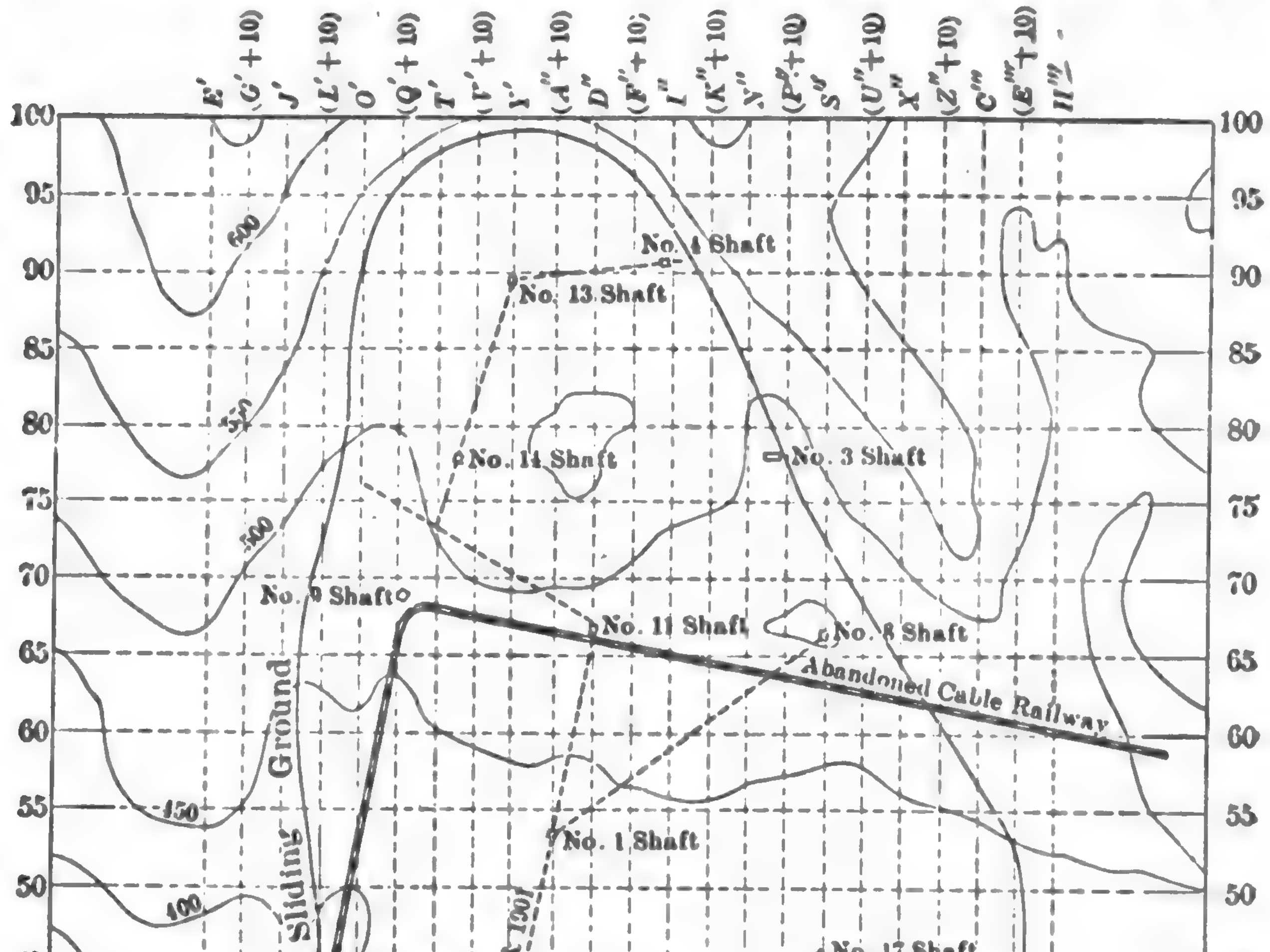

E'
(G'+10)
J'
(L'+10)
O'
(Q'+10)
T'
(V'+10)
Y'
(A''+10)
D''
(F''+10)
I''
(K''+10)
N''
(P''+10)
S''
(U''+10)
X''
(Z''+10)
C'''
(E'''+10)
H'''
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
600
550
500
450
400
350
300
250
No. 4 Shaft
No. 13 Shaft
No. 14 Shaft
No. 3 Shaft
No. 9 Shaft
No. 11 Shaft
No. 8 Shaft
Abandoned Cable Railway
No. 1 Shaft
Margin of Sliding Ground
Tunnel constructed 1900 & 1901
No. 6 Shaft
No. 17 Shaft
No. 2 Shaft
No. 5 Shaft
No. 16 Shaft
No. 7 Shaft
No. 18 Shaft
No. 22 Shaft
No. 20 Shaft
Tunnel const'd 1895
Tunnel const'd 1894
No. 19 Shaft
No. 21 Shaft
No. 3 Reservoir
Pump House
No. 4 Reservoir
Scale of Feet
0
100
200
300
400
500
600

FIG. 44

RECEIVED
APR 16 1969

FOR [illegible]

26-1181

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE
Salem, Oregon
April 15, 1969

SUBJECT: Highlands Interchange-Vista Ridge
Tunnel Section
Stage Construction
Contract No. 7186

To:

MEMO TO THE FILES

Inspected the subject project April 7, 1969. Contractor is in the process of construction of the stage construction which employs the use of the concrete block anchors, cables and H beam steel units which with wood 4 x 12 planks make up a retaining wall. A roadway will be built at a higher elevation than the present level back of this wall and traffic placed on it while the area that traffic is now using adjacent to this installation will then be raised.

Attached are pictures showing the beginning of this operation. Contractor is using material from a previously built stockpile which is of a rocky nature for the fill work. He, however, is using sand to compact around the concrete anchors and along the area where the cables connect the anchors and the retaining wall. The concrete blocks did not appear to be too well lined up and in a neat positioning. Probably, this will not affect their efficiency, however. The cables were ordered to specified lengths depending on the existing ground and this explains some of this irregularity. At this stage, it appears this type stage construction will work very efficiently where space for construction and traffic is very limited. Traffic appears to be well provided for and is moving through the project without difficulty.

John H. Walker
John H. Walker
Field Construction Engineer

JHW:fw
Attach.
cc: F. B. Klaboe
D. J. Barbee
A. E. Johnson
E. L. Scrivner

RECEIVED
APR 16 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
APR 9 - 1969
FOR FILING

26-1181
1186

April 7, 1969

Mr. James E. Richards, Jr.
Oregon Science Teachers Association
Meadow Park School
Beaverton, Oregon 97005

Dear Mr. Richards:

We have your April 1 letter concerning slide problems in the vicinity of OMSI and the Portland Zoo.

The City of Portland and the State are cooperating in an investigation to attempt to find a permanent solution. Several ideas have been advanced, each of which seems to have some shortcoming. Before proceeding, a competent consultant is being retained with the hope that some adequate remedial measure can be found.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

R. L. Porter
Deputy State Highway Engineer

RLP:ms

cc Forrest Cooper
F. B. Klaboe
Victor D. Wolfe

OREGON SCIENCE TEACHERS ASSOCIATION
affiliated with Oregon Education Association

REFERRED TO
admin
BY SECRETARY

Mail
on form reply
RLP

Meadow Park School
Beaverton, Oregon 97005
1 April 1969

State Highway Commission
Salem, Oregon

Dear Sirs:

I urge you to consider the proposal to fill Canyon Road in as a means of protecting the $10,000,000 investment in OMSI and the Zoo. The educational value of these two establishmenst can not be put into dollars.

Sincerely,

James E. Richards Jr.

James E. Richards Jr.
President

RECEIVED
APR 3 1969
OFFICE OF
STATE HIGHWAY ENGINEER

"For All Who Teach Science"

RECEIVED
MAR 26 1969

FOR [illegible]

26 1111
7186

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon 97310
March 20, 1969

To: MEMO TO FILE

SUBJECT: Sign Design
Canyon Rd. Project
Vicinity Sunset Tunnel

The attached sketch is a sign design prepared by this office for use by the Metro Division on the Canyon Road Project in the vicinity of the Sunset Tunnel.

The sign is a non-standard sign and its use will be strictly experimental in nature. It is to be used at the end of shifting construction sections to resolve a traffic flow problem created by a differential in the construction speed and the normal speed zone sections adjacent to either end of the construction area.

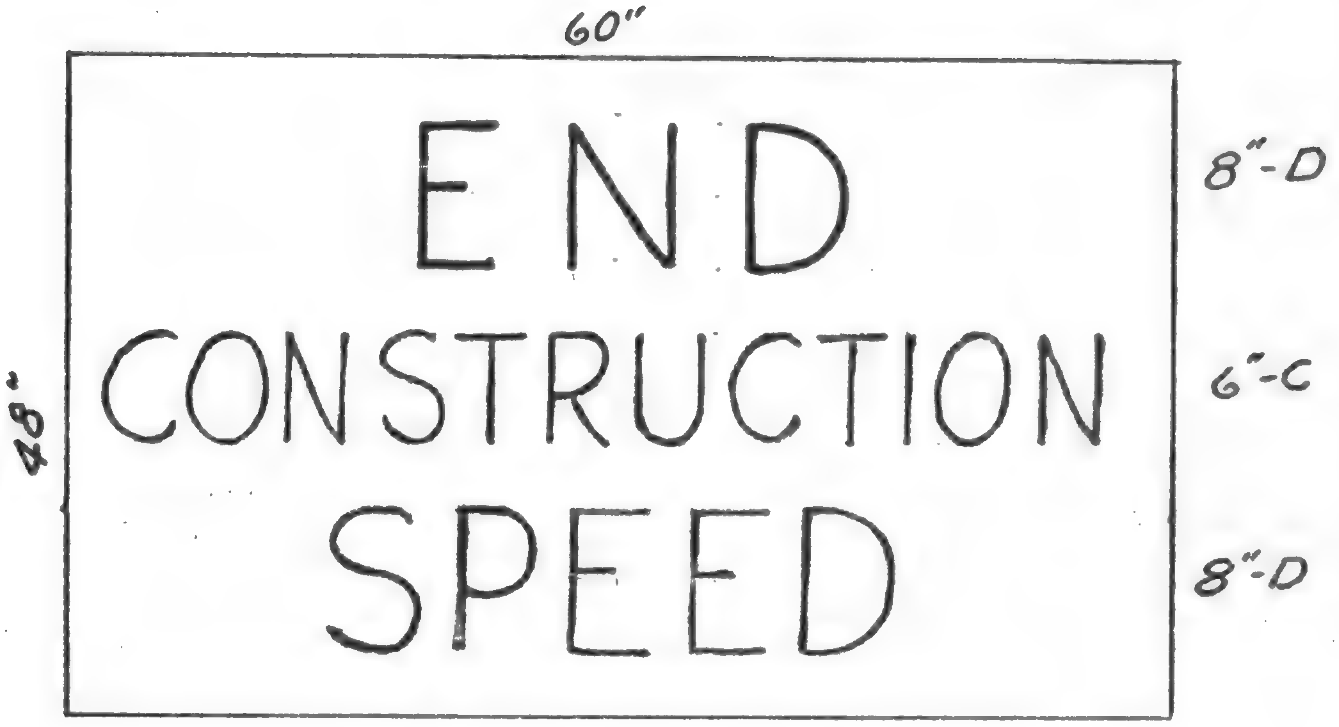
L. E. George
Asst. Traffic Engineer

LEG:njc
Attachment

CC: Tom Edwards - Att.
A.E. Johnson- Att.

NOTED
TOM EDWARDS

RECEIVED
MAR 21 1969
OFFICE OF
STATE HIGHWAY ENGINEER


60"
48"
END
CONSTRUCTION
SPEED
8"-D
6"-C
8"-D

RECEIVED
NOV 5 1969

FOR FILING

26-1181
7186

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
March 13, 1969

SUBJECT: Slope Stability Investigation
Portland Zoological Gardens
City of Portland

To: Mr. F. B. Klaboe
Assistant State Highway Engineer
OFFICE

In compliance with your request, attached hereto is a suggested rough draft of a proposed tri-party agreement with the City of Portland and the consulting firm of Shannon and Wilson, Inc.

The draft closely follows the form of the recent agreement with Howard, Needles, Tammen & Bergendoff for work on Harbor Drive.

Study the contents of the proposal and, if you approve, return to this office for preparation in final form.

Mainor C. Holmes
Mainor C. Holmes
Engineering Assistant
County and City Division

MCH:mm
Att.

NOTED
F. B. KLABOE

William L. Shannon, P. E.
Stanley D. Wilson, P. E.
Earl A. Sibley, P. E.
Walter L. Wright, P. E.
Rudy J. Dietrich, P. E.

SHANNON & WILSON, INC.
Soil Mechanics and Foundation Engineers
SEATTLE · PORTLAND · BURLINGAME
1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 · (503) 228-6147

March 12, 1969

Oregon State Highway Department
City of Portland
State Highway Building
Salem, Oregon 97310

Attention: Mr. F. B. Klaboe
Assistant State Highway Engineer

Re: Slope Stability Investigation
Portland Zoological Gardens
Portland, Oregon

Gentlemen:

In the process of accomplishing the scope of work outlined in our proposal dated February 14, 1969, it is the intent of the Consultant to employ the following personnel at the indicated hourly rate:

TITLE:	NAME	HOURLY RATE	
Principal	W. L. Wright	$9.259	
	S. D. Schwartz	8.00	
Principal Engineer	L. R. Squier	7.692	
Principal Geologist	R. J. Deacon	6.25	
Senior Engineer	K. F. Fujitani	5.769	
Engineer	P. B. Kelly	4.962	
Laboratory Technician	R. M. Gordon	3.404	*
	F. D. Haas	2.75	*
Senior Technician	R. H. Thayer	4.529	
Technician	G. Bennett	2.75	*
	G. White	3.462	*
	J. Barnett	2.50	*
	D. Kellum	2.885	*
	M. Lamb	2.80	*
	W. Wiggins	2.173	*
	S. Rose	3.00	*
	C. Wahls	3.00	*

NOTED
F. B. KLABOE

Senior Geophysicist	R. G. Kenly	4.759
Geophysicist	L. F. Baum	4.038
	G. W. Chase	4.771
	J. M. Musser, Jr.	4.529
	S. C. Wilke	3.462 *
Draftsman	C. A. MacKenzie	2.308 *
	D. Rosmini	2.885 *
Clerical	F. L. Willis	3.058 *
	G. L. Gehrke	2.105 *

* Note: These individuals are paid overtime at the rate of 1.5 times the base hourly rate.

Fees for the services of the aforementioned professional, technical and clerical personnel are based on the time expended on the project. The fee will be computed by multiplying by two and one-half (2.5) the payroll cost charged to the project. The payroll cost will consist of the employee's salaries charged to the project plus eight percent (8%) for unemployment compensation, social security taxes and Workmens' Compensation coverage.

We hope this information will be sufficient for your needs, but if you have any questions please feel free to contact us at your convenience.

Very truly yours,

SHANNON & WILSON, INC.

by
W. L. Wright

WLW:fw

	UNIT	QUANT	PRICE	TOTAL	Ref
TEST HOLES	ft	760	$5.00	$3,800—	SSS 4.50-5.50
Drill + Take Samples					
Piezometers	ea	12	100.00	1,200—	est
Installed in Grout					
SLOPE INDICATORS	ft	200			
Casing + Couplings	ft.	200'	2.45	490—	S+W
Instrum. Rental	Mon	6	120—	720—	Fountain
Readings + Comp.	hr	160	12.00	1,920—	est
SEISMIC	ft	3300	0.50	1,650—	est
SOIL SAMPLES					
Routine	ea	80	40.00	3,200—	est
UNDISTURBED	ea	8	300.00	2,400—	est
			SUBTOTAL:	$15,380	

The Balance, $20,000 to $25,000 would be expended in review, analysis, reports, expenses, and outside consulting fees.

Gano on the fountain Ls. has spent $60,000—

Included was 2100 ft of Rough drilling

2100 ft of Slope indicator devices

a few soils samples, readings, computations and reports.

Gano estimates his forces could do the work inc. Seismic and all reports for $15,000—

WILLIAM L. SHANNON, P. E.
STANLEY D. WILSON, P. E.
EARL A. SIBLEY, P. E.
WALTER L. WRIGHT, P. E.
RUDY J. DIETRICH, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE · PORTLAND · BURLINGAME

1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 · (503) 223-6147

February 14, 1969

Oregon State Highway Department -
City of Portland
State Highway Building
Salem, Oregon 97310

Attention: Mr. F. B. Klaboe
Assistant State Highway Engineer

Re: Slope Stability Investigation
Portland Zoological Gardens
Portland, Oregon

Gentlemen:

On February 7, 1969 a meeting was held in the offices of the State Highway Department to discuss a foundation investigation and engineering study of the problems of hillside instability at and within the vicinity of the Portland Zoological Gardens in Portland, Oregon. In attendance at the meeting were Messrs. F. B. Klaboe, Oregon State Highway Department, A. Staley and J. Davis, City of Portland, Park Bureau and W. L. Wright, Shannon and Wilson, Inc., Portland.

As a result of this meeting and in accordance with your request, we are pleased to submit a proposal for an investigation which would, in our opinion, provide the necessary data to make engineering analyses and which would, therefore, permit studies to be made of one or more schemes of slope stabilization.

For the preparation of our proposal, we have made a cursory review of the available data consisting of reports by others of previous studies and remedial work dated about 1959; topographic maps, also compiled about 1960; movements of surface reference monuments, which were placed across the areas of instability; and boring logs prepared by the Oregon State Highway Department. In addition, several reconnaissances were made of the site by walking over the area proposed to be studied.

The existing slide area extends northward from S. W. Canyon Road, a distance in the order of 600 feet, although inspection of curbs and similar reveals that surficial creep-like movements are possibly occurring further uphill toward the ridge line. As yet, however, these strains have not resulted in noticeable additional cracking of the ground which of course would be an indication of an

NOTED
F. B. KLABOE

expansion of the existing area of instability. With respect to the width or face of the slide area, it appears to extend along S. W. Canyon Road a distance of about 1600 feet or between about Stations 111 and 95 (State Highway Stationing, ref. 1959). The foregoing delineates, for the most part, our primary area of study although, for a comprehensive evaluation of the problems, field work will be required uphill and to the drainage draws on both sides. Hence, our studies will extend somewhat outside the primary area. The area delineated includes the State Highway Underpass, OMSI and the Zoo complex.

On this basis we propose to accomplish the following:

1. Review all available information, including borings, aerial photographs, geology, groundwater data, surface movements and all other data gathered by the State, the City and others, which is pertinent to the study.

2. Make approximately 8 borings with a total footage of about 760 feet. Five of these borings are proposed to be located within the main slide area whereas three will be located further uphill. Borings outside the slide area are required in order to evaluate the changes in subsurface conditions between the uphill and main slide area such as groundwater levels or geologic and soil conditions. Representative samples will be obtained at intervals of approximately 5 feet in each of the borings, consisting of relatively undisturbed 3-inch steel tube samples or standard penetration drive samples. It is anticipated that the borings will encounter basalt rock and in these borings, the rock will be continuously cored a distance of 10 feet, using a NX core barrel. The drilling work would be subcontracted to a reputable boring contractor. The contractor's work would be observed and written logs and/or records kept by one of our technicians.

3. Install piezometers in the drill holes to permit the measurement of piezometric pressures in the hillside. To make the measurements sufficiently comprehensive it is necessary, in our opinion, to install one deep and one shallow piezometer per boring, each one sealed at an appropriate level with bentonite and further backfilled with granular, free-draining material.

4. Install 2 slope indicators to confirm the present location of the slide plane at depth in the hillside. Although previous slope indicators established a failure plane in 1959 we feel that it is important in this phase of our

study to confirm that over the past 10 years, the seat of the movements has not changed either upward or downward as a result of the remedial work, i.e., the vertical drains, installed in 1959-1960. It is also anticipated that the City of Portland will locate and uncover the existing slope indicators and readings will be attempted where practical.

5. Conduct a geophysical survey, consisting of 3 seismic refraction lines, each a length of about 1100 feet. Two of these lines would run from S. W. Canyon road uphill across the slide area and as such supplement the geologic and soil information obtained in the borings. They would in essence, fill gaps in the geologic information between borings. The third line would possibly run along the full length of the toe of the slide. This latter line would provide broad coverage of the character of existing subsurface materials at the toe for studies of remedial measures.

6. Conduct laboratory tests on selected samples of soil. At the present time, we do not anticipate a large amount of work of this nature. Most of the laboratory tests will be of a routine nature, Atterberg limits, natural water contents, and similar. The remainder will consist of a series of strength tests of a more special nature.

7. Undertake a detailed engineering study of the hillside in question. The study would include, in part, slope stability analyses and, naturally, a thorough analyses of possible remedial measures. At some point in this stage we propose to review all work accomplished and the various remedial measures apparent from our studies with outside consultants, consisting of Mr. S. D. Wilson and/or possibly Prof. R. B. Peck, Professor of Foundation Engineering at the University of Illinois, Urbana, Illinois.

8. Complete a foundation report, which would summarize the work accomplished, our studies, and our recommendations: 10 copies will be submitted.

It is understood that all data presently collected and being assembled by the State of Oregon and/or the City of Portland pertinent to the slide problems will be made available to us for this review. It is also understood that the State of Oregon and/or the City of Portland will provide all required topography and aerial photographs of the area at the required scale and contour interval at no cost to us. This will include the existing topography along the right-of-way and the proposed changes which are currently under active consideration in the grading of the right-of-way in S. W. Canyon Road. In addition it is understood that you will make available to us plans, structural loads, site surveys, precise utility locations, rights of entry and other information which will be of assistance to us in our investigation.

Our fee for the services outlined would be based upon the attached Fee Schedule and we estimate that the total cost will range between $35,000.00 and $40,000.00. We agree not to exceed the larger amount for the work outlined without your prior written approval.

We trust that this proposal will meet with your favorable consideration and if additional information is desired we would be pleased to confer with you at your convenience.

Respectfully submitted,

SHANNON & WILSON, INC.

by
Walter L. Wright

LRS:WLW:gg

RECEIVED
FEB 17 1969
OFFICE OF
STATE HIGHWAY ENGINEER

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OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
March 5, 1969

NOTED
G. E. ROHDE

SUBJECT: Highlands Interchange
Vista Ridge Tunnel
Contract No. 7186

To:

Mr. F. D. Morgan
Construction Engineer
Building

As you requested, we have reviewed the letter of February 19 from Peter Kiewit Sons' Co. and the interdepartment letter of February 27, 1969 from A. E. Johnson by J. H. Versteeg.

I discussed this matter with Mr. Bond on March 4 and suggest that you write to the Contractor to the following effect:

> "We have received your letter of February 19, and have noted your feeling that you should not be liable for injury or damage caused by material from the raveling slopes. However, we do not believe that your feelings or comments thereon, or anything we can properly say or do, will have any effect upon what your liability might be under the terms of the contract and related legal principles."

I understand we have installed some metal screening along some of these slopes as a safety measure, at State expense. If the Contractor brings up this point, I suggest we emphasize that such work has been done from a safety standpoint and not to relieve the Contractor from any responsibility under the contract.

ALAN H. JOHANSEN
Staff Attorney

AHJ:rh

cc: Mr. G. E. Rohde

RECEIVED
FEB 27 1969
FOR FILING

26-1121

7186

February 25, 1969

Mr. N. B. Mannheimer
2362 West Burnside
Portland, Oregon   97210

Dear Mr. Mannheimer:

Reference is made to your February 14 letter concerning the slide in the vicinity of the Portland Zoo and the Oregon Museum of Science and Industry property.

The City of Portland and the Highway Commission are cooperatively undertaking a survey and a complete review in an effort to determine a permanent corrective plan. A great number of suggestions have been made, many of which will not provide the desired result.

Representatives of OMSI are welcome to discuss this matter with Highway Department personnel at any convenient time. Should they wish to appear before the Highway Commission, arrangements can be made through the Commission Secretary, Mr. Floyd Query, State Highway Building, Salem, 97310.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

R. L. Porter
Deputy State Highway Engineer

RLP:mm

cc Forrest Cooper
F. B. Klaboe
Victor D. Wolfe
Floyd Query

young land
UPTOWN SHOPPING CENTER · CALL 227-1414
2362 WEST BURNSIDE · PORTLAND, OREGON

REFERRED TO
[illegible]
BY SECRETARY

February 14, 1969

State Highway Commission
Salem, Oregon

Gentlemen:

The problem concerning the apparent danger to the physical plant of the Portland Zoo and OMSI has come to my attention, and as it has been suggested that this situation is directly or indirectly connected with the cut that has been made during the construction of Canyon Road in years past, this request is being made as a matter of record.

In the belief that both of the above institutions are a tremendous asset to the children and the community alike, we request that the highway commission take the necessary steps to rectify the slide condition in the area and prevent the inevitable loss to the people of Portland and Oregon.

Very truly yours,

N. B. Mannheimer

NBM/g

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FEB 17 1969
OFFICE OF
STATE HIGHWAY ENGINEER

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STATE HIGHWAY COMMISSION

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FEB 14 196

1859

OREGON STATE
HIGHWAY DEPARTMENT

METROPOLITAN SECTION

5821 N.E. GLISAN • PORTLAND, OREGON • 97213 • Phone 235-8911

February 11, 1969

Shannon and Wilson
Engineers
1632 S. W. Morrison Street
Portland, Oregon 97205

Gentlemen:

Zoo Area Slides
Sunset Highway

This will confirm delivery to your Mr. Walter Wright today of the following data pertaining to the Zoo area slide on the Sunset Highway:

1 print, scale 1"=100', Test Boring Plan dated February 1959
1 print, scale 1"=50', " " " " December 1965
1 roll, platted 1968 Location cross-sections, Sta. 94 to 102+50
1 pad Drill Logs, 1957-1959 and 1967

The drill logs are printed from carbon copies in this office and are not 100% legible. When needed, more legible copies can no doubt be obtained from originals in our Geologist's office at Milwaukie. I also note that collar elevations are not always shown. I believe these can also be supplied.

Please feel free to call on us for additional information at any time.

Yours very truly,

A. E. Johnson
Metropolitan Engineer

by A.V. Benedict

A. V. Benedict
Assistant Metropolitan Engineer

AVB:lh

bcc: F. B. Klaboe
D. J. Barbee
Dan Gano

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FEB 13 1969
OFFICE OF
STATE HIGHWAY ENGINEER

rec'd. 2-7-69 from City Park C
Dept.

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MAR 6 - 1969

FOR FILE
26-11[illegible]

F. B. KLAI

1859

**DEPARTMENT OF
GEOLOGY AND MINERAL INDUSTRIES**

ADMINISTRATIVE OFFICE

1069 STATE OFFICE BLDG. • PORTLAND, OREGON • 97201 • Ph. (503) 226-2161 Ex. 488

TOM McCALL
GOVERNOR

STATE GEOLOGIST
HOLLIS M. DOLE

GOVERNING BOARD
FRANK C. McCOLLOCH, Chairman
Portland
HAROLD BANTA, Baker
FAYETTE I. BRISTOL, Rogue River

February 6, 1969

Mr. Roland B. Hall
Director of Operations
Bureau of Parks & Public Recreation
1107 S.W. 4th Avenue
Portland, Oregon

Dear Mr. Hall:

This is in response to your letter of January 28 and to the conversation Mr. Schlicker and I had with you February 6 at the OMSI-Zoo site. You requested that I summarize my statement to you of this date by letter.

As I noted at the beginning of our talk, the problem at the OMSI-Zoo site is nothing new. As a matter of fact, the slide was in existence at the time these structures were built and if we had been at that time as sophisticated in our land use as we are today, it is quite likely this region would never have had any capital construction on it.

I noted that one of the principal problems that has brought the slide area to the attention of the people today is that insufficient data and facts are available and thus many of the "cures" put forth are nothing but guesses. I also stated that anything I might suggest would be open to this same trap. It appeared to me that to obtain the facts was going to be quite a costly endeavor involving considerable drilling and other engineering work, evaluation of soils, and geologic work.

This problem is neither solely an engineering problem nor a geologic problem, but one that must utilize information from both professions. The work that has been undertaken to date in my opinion was not a cure for the problem but one that tended to relieve the various crises as they appeared.

I felt that from a thorough engineering-geologic study there possibly might be a solution which would allow usage of OMSI and the Zoo within their useful life expectancy but I cautioned against extensive future capital expenditures in the area.

2-7-69

HBB cc Porter

I further suggested to you that you should give consideration to secondary holding structures in case landsliding would cause release of the more dangerous animals kept in the Zoo.

The problems faced by the City at the OMSI-Zoo site are of such magnitude this Department could not serve you in more than an advisory capacity. To do otherwise would dilute our efforts for our other responsibilities. This I felt is a job for a competent engineering firm that has strong geologic support, or a geologic firm that has strong engineering support, or perhaps an engineering and a geological consulting group.

This, in essence, is a summary of our conversations as I recall them.

Sincerely yours,

Hollis M. Dole
State Geologist

HMD:jr

EDWARD L. ERICKSON
ADMINISTRATIVE ASSISTANT
VINCENT J. CROWLEY
CHIEF CLERK
BUCHAN E. McKENDRICK
DIRECTOR OF GOLF

ROLAND B. HALL
DIRECTOR OF OPERATIONS
DOROTHEA M. LENSCH
DIRECTOR OF RECREATION
JACK L. MARKS
DIRECTOR OF THE ZOO
VERNON O. TOEDTEMEIER
STADIUM MANAGER

CITY OF PORTLAND, OREGON
BUREAU OF PARKS AND PUBLIC RECREATION
CITY HALL ANNEX
1107 S. W. FOURTH AVE.

FRANCIS J. IVANCIE, COMMISSIONER
HARRY B. BUCKLEY, SUPERINTENDENT

January 28, 1969

Mr. Hollis Dale
State Geologist
1400 S.W. 5th Ave.
Portland, Oregon 97201

Dear Mr. Dale:

During the past several days the City of Portland has had many and varied opinions and solutions presented to correct a ground slippage situation at its Zoological Garden, and none appear to be the complete answer to the problem.

During 1959 the engineering firm of Dames and Moore performed test borings in this area with the subsequent recommendation and supervision of the construction of a series of interconnected vertical drainage galleries.

From the completion of this construction to the first of 1969 we have logged the amount of movement to be 1.57 feet horizontally and 1.45 feet vertically. With this rate of movement continuing we will probably experience considerable damage to the physical plant.

In view of these occurrences, we wish to solicit the assistance of your department to arrive at a permanent solution to this problem. We shall make available to you all engineering reports and slide activity.

Any assistance that you can give us will be appreciated.

Very truly yours,

Harry B. Buckley
Superintendent of Parks

By Roland B. Hall
Roland B. Hall
Asst. Superintendent

RECEIVED
FEB 7 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RBH:mg

cc - Commissioner Ivancie

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JAN 29 1969
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JAN 31 1969

FOR FILING

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7186

January 30, 1969

Mr. Bruce M. Hall
Rives & Schwab
Public Service Building
Portland, Oregon 97204

Dear Mr. Hall:

Reference is made to your January 22 letter concerning the slide in the vicinity of the Portland Zoo and the Oregon Museum of Science and Industry property.

We will discuss the matter at an early date with Portland City officials in an effort to see if some practical solution may be available.

Any conclusions at this time would be purely speculative but the matter will have the attention of the Commission after discussions with the City and after a thorough investigation of the whole problem is reviewed.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Highway Commission

RLP:ms lms
bc: R. L. Porter
F. B. Klaboe
Victor D. Wolfe
F. D. Morgan -- ATTENTION: D. L. Decker
D. J. Barbee
A. E. Johnson

FORM E-30 (12-67)

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
January 29, 1969

NOTED
R L PORTER

SUBJECT: Zoo Slide

To: Mr. R. L. Porter
Deputy State Highway Engineer
BUILDING

An estimate of costs to raise the grade 10 feet past the Portland Zoo is attached. Unit bid prices on the current canyon road project were used.

The total estimated cost is $1,077,471.00 with the largest single item being $324,000.00 for 270,000 cu. yds. of embankment in place. To preserve acceptable grade lines the raised grade was carried some 1100 feet westerly of the existing overcrossing structure at the zoo site. For the same reason it was carried some 1300 easterly of the structure. The easterly extension overlaps some 1100 feet of the current planned work.

The history of soil movements on the slopes northerly from Canyon Road dates back to the first attempts to develop the area some 80 odd years ago. The records indicate the mantle soil is susceptible to movement over the full length of slope.

Excavations for the zoo itself and the widening of Canyon Road past the zoo area were in the area most susceptible to sliding if disturbed, at the toe of slope.

It is probable that movement of a slow creeping nature was taking place at the time widening was started in late 1957.

The area first to show accelerated movement after the start of excavation was the cut easterly of the zoo entrance road (Sta. 95 to Sta. 106). Here the overall height of cut was on the order of 50 feet. Cracking occurred upon removal of the first 20 feet of excavation. The zoo directors house 50 feet from the top of slope was moved and the slope of the entire cut was flattened.

As the work continued, more widespread movements occurred. The beginning of the now well developed break line passing under the S.E. corner of the OMSI building began to evidence itself in 1958. Movements occurred westerly of the zoo entrance causing damage to the Prebble and Rosenfeld residences (shown on photo 1959-B). The Highway Department purchased these two houses and later disposed of them by auction.

Underground plumbing was broken in the area between the OMSI building and Giraffe house starting in 1958. The entrance road in front of the OMSI building has been distorted with the major inconvenience being settlement of the upper breakline. The broken sidewalk at the northerly end of the canyon road overcrossing structure is evidence of earth pressure here.

The movement posing the major threat to zoo property at this time was the subject of a report by Dames and Moore in 1959. Plate I of their Plot Plan is attached. Pertinent data on this drawing are:

1. Line of Drainage Gallery installed by City.
2. Major cleavage line of present well defined break.
3. Direction of slide movement shown as line 13-13.

The above can be seen in photos 1959-A and 1959-B which also show by red line the embankment to be placed under current work. The attached profile shows approximately 17 feet between existing ground and new profile at Sta. 97.

F. D. Morgan
Construction Engineer

By: G. L. Decker
G. L. Decker
Assistant Construction Engineer

GLD:ss
Enclosure

OREGON STATE HIGHWAY DEPARTMENT
QUANTITY SUMMARY & COST ESTIMATE

Sheet 3 of 3 Sheets

Section Highland Interchange Unit
way Sunset County Multnomah Prefix 37-1427
Length 0.55 mi. Designer Roberts Draftsman Henry Date Jan 1969
Signed Title

Grading & Drainage	94-123	$ 534,584
Surfacing	106-123	$ 178,642

Extra Work

Signing	$ 3,000
Illumination	85,000
Protective & Directional	5,000

Total Extra Work	$ 93,000
TOTAL	$ 806,226
+ 20% Engineering and Contingencies	$ 161,245

Structures

Raise ext'g. Highlands	$
Interchange Structure	110,000

Total Structures	$ 110,000
Right of Way	$
Total Estimated Cost	$ 1,077,471

OR ON STATE HIGHWAY DEPARTME
QUANTITY SUMMARY & COST ESTIMATE

Sheet 2 of 3 Sheets

Section [illegible] Interchange Unit
Highway [illegible] County [illegible] Prefix 37-1827
Length Designer [illegible] Draftsman Date Jun 69

~~Grading and~~ Surfacing Items

Item	Unit	Net	~~10%~~ 25% Allow	Gross	Price	Amount
Plant Mix [illegible] Base	ton	14,165	3,541	17,706	2.60	46,036
Bituminous Base	ton	7,941	1,985	9,926	4.80	47,645
Asph. in Bit Base	ton	357	89	446	34.00	15,164
Asphaltic Conc. Mix	ton	5,989	1,497	7,486	6.60	49,408
~~Asph. in Mix~~	~~ton~~	~~329~~	~~82~~	~~411~~		
Aggr. in Prime	c.y.	187	47	234	5.10	1,193
Asph. in Prime	c.y.	34	9	43	58.00	2,494
Extra for A.C. Walks	Sq. Yds	460	115	575	2.00	1,150
Median Barrier	Lin ft.	1550	388	1,938	4.80	9,302
Guard Rail	"	2000	500	2500	2.50	6,250

Total 178,642

OR GON STATE HIGHWAY DEPARTM T
QUANTITY SUMMARY & COST ESTIMATE

Sheet 1 of 3 Sheets

Section Highlands Interchange
Unit Grading 74-123) (Paving 106-123
Highway [illegible]
County [illegible]
Prefix 37-1427
Length
Designer [illegible]
Draftsman [illegible]
Date 1.24.1969

Grading and Surfacing Items [illegible] Estimate

Item	Unit	Net	~~10%~~ 25% Allow	Gross	Price	Amount
Clearing & Grubbing	All					10,000.00
[illegible] in Place	Cu. Yd.	216,000	54,000	270,000	1.20	324,000
Trench Exc.		2,000	500	2,500	12.00	30,000
Catch Basins	One	18	5	23	260.00	5,980
Manholes	One	8	2	10	900.00	9,000
8" Sewer Pipe	Lin. Ft.	500	125	625	3.00	1,875
12" "		720	180	900	5.00	4,500
15" "		720	180	900	6.00	5,400
18" "		300	75	375	8.00	3,000
21" "		800	200	1,000	11.00	11,000
36" "		450	113	563	25.00	14,075
8" Perf. Pipe		2650	663	3,313	[illegible]	7,939
Special Backfill Matl		800	200	1,000	7.00	7,000
Type F Conc. Curb	Cu. Yd.	25	6	31	38.00	1,178
Type 'C' Conc. Curb	Cu. Yd.	260	65	325	38.00	12,350
8" [illegible] 'A' Conc. in Ret. Wall	Cu. Yd.	470	118	588	88.00	51,744
Rein. Steel	lbs	33,500	8,375	41,875	016	6,700
'A' Conc. in [illegible] & Stairs	Cu. Yd.	125	31	156	153.00	23,868
Trash Racks	One	2	1	3	700.00	2,100
Type 'C' Conc. Island	Cu. Yd.	20	5	25	35.00	875

Total 534 584

2

Highlands Intch. (Zoo xing) Mult.

Calculations by Christensen Date 1-24-69 Bridge No. 8311

Requested By: Decker

T. C. ROAKE

Raise existing structure 10' to allow for a raising of the Sunset Hwy.

$110,000

An allowance has been made for engr. & contingencies. Grading paving and detours not included.

ERTIFIED MAIL
TURN RECEIPT REQUESTED

CERTIFIED
No. 598046
MAIL

RIVES & SCHWAB
(RIVES & RODGERS)
(BONYHADI & HALL)
ATTORNEYS AT LAW
PUBLIC SERVICE BUILDING
PORTLAND, OREGON 97204

GEORGE D. RIVES
HERBERT M. SCHWAB
LEONARD BENNETT
ERNEST BONYHADI
BRUCE MacGREGOR HALL
HUGH SMITH
GERARD K. DRUMMOND
ROBERT F. HARRINGTON
ROBERT D. STEINMETZ
HARDY MYERS, JR.
LEONARD A. GIRARD
RICHARD D. BACH
H. JAY FOLBERG
WILLIAM C. SCOTT, JR.

ALLAN A. SMITH
DONALD A. SCHAFER
OF COUNSEL

January 22 , 1969

REFERRED TO
admin
BY SECRETARY

NOTED
R. L. PORTER

Oregon State Highway Commission
State Highway Department Building
Salem, Oregon 97310

Gentlemen:

Oregon Museum of Science and Industry is greatly concerned over the effect of recent slides moving southerly from its building area and downward towards the four-lane highway known as Oregon State Highway No. 26. A letter was written to the Oregon State Highway Department on January 27, 1968 calling the situation to its attention, and suggesting that the new construction under the Peter Kiewit Sons' Co. contract take into consideration the damage already being done and potentially to be done to OMSI as a result of further construction on this highway. Loren McKinley, OMSI's Executive Director later, on December 27, 1968, wrote to A. E. Johnson, Metropolitan Engineer, detailing some of the financial loss that OMSI has been suffering as the result of travelling conditions over the portion of the highway under construction, and also as to the slide problem. Mr. McKinley requested a meeting with Highway Department representatives, which was held on January 13, 1969, with representatives of the Portland Zoological Society and the Bureau of Parks of the City of Portland also in attendance.

At this meeting the Zoo officials joined OMSI in expressing their deep concern as to the continuing effect on the stability of these properties of the present four-lane highway and the increasing danger as a result of the new construction.

The Zoo authorities' concern relates to recent slides on both sides of the $200,000 (plus) commissary building, which unfortunately stands below the now active major fault line. They feel this investment will ultimately be lost unless dramatic shoring such as later recommended herein takes place. Some of the exhibits, the giraffe and administration buildings are similarly jeopardized. They noted, as has the press, that the winter disturbances have repeatedly cut off gas heat and loss of expensive animal life (camels) has resulted. OMSI, for its

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OREGON
STATE HIGHWAY COMMISSION

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part, has suffered numerous cancellations because of interrupted phone (as well as highway) service.

The Highway Department officials were non-committal as to our problems, but did outline the procedure for our respective organizations to follow to bring them to the attention of the Commission. I attach hereto copies of the letter of December 27, 1968, and also of the paper prepared by Mr. McKinley for the January 13, 1969 meeting, and of the Portland Zoological Society report to Commissioner Ivancie from Lawrence Curtis, both of which were handed to the Department officials at the meeting.

The Highway Department officials indicated to us that three basic steps can be taken to alleviate slippage conditions:

1. Drainage;
2. Cover; and
3. Fill and subjacent support.

They indicated that current plans called for filling with wet-weather material (heavy rock has not been specified, however) to within 300 feet of the present overpass linking the Zoo and OMSI to the highway. A further discussion developed order-of-magnitude figures that, without disturbing the present elevation of the overpass (the so-called Highland Bridge), the fill could be continued to a point 10 feet east of the overpass with around 25,000 cubic yards of rock, which at $1.25 per cubic yard would round off to around $31,000. (These figures are understood by us to be solely order-of-magnitude, and while we appreciate the Department's cooperation in giving us these estimates, we recognize that they are in no way to be considered exact or binding.)

By filling to a point 10 feet east of the overpass, all parties agreed that considerable added stability would be given to the Zoo site, where the most severe recent slides have taken place, but also that such added filling affords only incidental protection to structures westerly thereof. The Zoo investment now exceeds $4,000,000; the OMSI investment now exceeds $2,500,000; and the Western Forestry center will exceed $2,000,000. These scientific and educational facilities constitute a unique contribution to the Pacific Northwest, and draw to our State a tremendous volume of business. There were over 1,000,000 visitors to the Zoo and OMSI last year, many from out-of-state and all directly or indirectly paying the Oregon State gasoline tax. We therefore feel that, while the above addition would be most helpful, it would still fail in considerable measure to protect this extremely valuable complex of scientific and educational facilities. Expert opinions, some of which are attached, strongly confirm our fears.

We recommend, while there is still time, heavy-rock filling to a point which will significantly stabilize the entire complex, plus restoration of the toe of the hill. In making these recommendations for our protection and the general public interest, we believe specific benefits will accrue as well to the Sunset Highway:

(1) The Highland Bridge overpass is, of course, State property. Within the last year and one half the northerly approach alone has dropped two to three inches at its anchor point. If the situation is not corrected, an expensive overpass may ultimately be lost. Significant additional filling, on the other hand, should afford a great deal of timely protection.

(2) The slides which have been so increasingly a feature of this area since the enlargement of the highway to four lanes have resulted in increased maintenance costs, and have visited considerable added expenses onto public utilities. The recent slides onto the Zoo - OMSI approach road have been the most severe in five years. With an even wider cut now to be extended through the narrow portion of the canyon under the Peter Kiewit Sons' Co. contract, we would reasonably anticipate an accelerating increase in slide removal. These maintenance costs will, over a period of years, constitute a significant additional expense to the Oregon State Highway Department.

As to whether our recommendations are economically reasonable, we as laymen note the truly massive fill work presently in view between the tunnels under Portland Heights and the narrow canyon below the Zoo and OMSI. When we add to this the huge amount of fill work still to come indicated by the Highway Department plans, we reach the conclusion that the added protective filling we are advocating above the narrow canyon and adjacent to the Zoo and OMSI would constitute a very minor percentage indeed of the total fill costs, and yet would afford maximum benefit to valuable assets of the citizens of our State.

Since we are all deeply concerned with the protection of these two nationally-respected institutions, and the planned Western Forestry Center, we respectfully request a hearing before the Commission in behalf of the Zoo, the Oregon Museum of Science and Industry, the Western Forestry Center developers and other concerned citizens as soon as the Commission has been able to obtain such studies as it may wish in advance of such hearing. For our part we will continue our efforts to develop helpful information, and offer the use of the proximately located OMSI auditorium for the hearing.

Very truly yours,

Bruce M. Hall
BRUCE M. HALL

BMH:cm

RECEIVED
JAN 23 1969
OFFICE OF
STATE HIGHWAY ENGINEER

PORTLAND STATE COLLEGE PORTLAND, OREGON

DIVISION OF SCIENCE
DEPARTMENT OF EARTH SCIENCES

January 21, 1969

Mr. Loren D. McKinley, Director
Oregon Museum of Science and Industry
4015 SW. Canyon Road
Portland, Oregon 97221

Dear Mr. McKinley:

Although I have not studied the O.M.S.I. - Zoo slide in detail, and I am not completely familiar with its history, I have examined the ground on several occasions. Apparently the whole upper end of the canyon has been subject to landslides for a long time, but the present serious slide is a result of the large highway cut immediately below the Museum and Zoo. Removal of that material left nothing to hold the O.M.S.I. and Zoo grounds; rainwater soaking into the grounds and into the basin above simply increases the weight of the free block and buoys it up. The trouble is, now that a large slide is established, it could be very difficult to stop completely.

Various things can be done. For example, a reinforced abutment could be built to try to hold or contain the slide. Drainage structures could be made to dewater the slide. (I understand that several drainage walls and pipes have been installed, but I do not know how effective they have been - obviously not completely - or whether they remain undamaged.) Or, the large highway cut could be raised, although this would also require raising the bridge below the Museum. If the cut is to be filled, plans should include drainage structures in the slide, and provision should be made for drainage within the fill.

In any case, remedial measures are mandatory, and they should be as permanent as possible. Temporary stabilization of the slide will be nearly as expensive now, and costs would continue.

Yours very truly,

Gilbert T. Benson
Assistant Professor of Geology

PORTLAND STATE COLLEGE PORTLAND, OREGON

DIVISION OF SCIENCE
DEPARTMENT OF EARTH SCIENCES

January 21, 1969

Board of Directors
Oregon Museum of Science and Industry
4015 S. W. Canyon Road
Portland, Oregon

Dear Mr, McKinley:

Having studied the Washington Park landslides and the proposed Highway construction plans it is our opinion that their present proposal to top-fill onto the toe of the landslide will probably help stabilize the slideing--somewhat.

However, the Highway Department is not directly treating the slide problem. The aerial extent and potential hazard of the landslide area is much greater than that activated in 1959 or area that is now in motion. Surveys have shown continued movement of the ground surface near the highway and indicate potential for re-activation of the larger landslide area which includes the entire OMSI and Zoo areas.

Previous damage settlements may not apply to the entire landslide problem but only that portion treated and even that area has not been stabilized satisfactorily. It may still be possible to establish Highway Department reonsibility.

It appears to one of us that the Highway Department designs have been developed to carefully avoid further involvement with the landslide. It appears that inclusion of remedial measures to permanently stabilize the sliding might be less expensive. However, such changes might be difficult now that Highway designs are finalized.

In our opinion, an attempt should be made to construct permanent remedial structures such as abutment fills and drainage structures to stabilize the entire landslide area as determined by a thorough investigation performed by persons professionally competent in both soils mechanics and engineering geology. In our opinion, no release from Highway Department liability should be granted since they appear to be clearly responsible for activating the hazard due to the main highway excavation.

John Eliot Allen, Head

L. A. Palmer, Engineering Geolog

ASSOCIATION OF ENGINEERING GEOLOGIST
PORTLAND SECTION
1632 S. W. Morrison Street
Portland, Oregon 97205

January 20, 1969

Mr. Warren H. McKinley
Director, Oregon Museum of Science
and Industry
4015 S. W. Canyon Road
Portland, Oregon

Dear Mr. McKinley:

Mr. Ralph Mason, Mining Engineer, State of Oregon Department of Geology and Mineral Industries recently called to request a response from the Association of Engineering Geologist, Portland, Oregon Section in connection with plans for construction by the Oregon State Highway Department on Canyon Road. At our Section meeting last Thursday evening, January 16, 1969, we discussed the proposed Highway Department plans together with the general characteristics of the slide area extending along the north side of the present highway and forming a part of the south boundary of the City of Portland Zoo property.

It is our understanding that present Highway Department plans call for construction of a granular fill that would range in thickness from about 16 feet at the east end of the slide area to about 1 foot at the approximate location of the existing overpass structure. We assume that the north boundary of the proposed fill would abut the zoo property along the entire fill area.

Mr. Mason has asked for comment about the possible stabilizing effect of this fill. We feel that in general, the placement of a fill along a part of the landslide area probably would have some partial salutary influence on the slide area. We wish to emphasize however, that we have no detailed information and therefore can only assume that the proposed fill would be placed at such a position on the slide that it would act as a partial buttress to movement.

The members of the Portland Section of AEG view with deep concern the continued hazard of this slide area and believe that this would be a most opportune time to study the entire problem. Before any corrective measures are taken, we recommend that a competent geologically oriented engineering organization be retained to conduct the necessary studies. We also urge that the zoo contact the Highway Department to discuss a possible joint program of landslide investigations to develop methods that would best stabilize the slide area.

Very truly yours,

Robert J. Deacon
Chairman, Portland Section
Association of Engineering Geologist

RJD:gg

NOTES FOR MEETING WITH STATE HIGHWAY COMMISSION, MONDAY, JANUARY ~~28~~ 13, 1969

The current construction on Canyon Road has, to date, caused the following severe financial injuries to the Oregon Museum of Science and Industry:

During the month of December, 1968, with heavy planetarium schedules at specific times, buses very often arrived late, thus preventing students from enjoying the planetarium show, and resulting in loss of income to this museum.

Slides have blocked Canyon Road (including one on the weekend) cutting normal attendance drastically.

Earth slippage parted telephone cables during the period of class registration, and consequently there was a substantial drop in the number of students registering and a loss of income from class fees.

The lack of telephone service also had an adverse effect on our relationship with our members and potential visitors as they became exasperated when repeatedly getting a busy signal when trying to call to register for classes, sign up for field trips or obtain information on other museum programs.

Adverse publicity in the newspapers and other news media concerning the series of slides on Canyon Road causes apprehension in potential visitors who fear to travel the road to OMSI because of the uncertain and hazardous conditions existing.

It would appear that if the State Highway Commission is ever to rectify what some geologists say was a very serious error in cutting the toe from the hillside below OMSI and the Zoo, now is the time! Plans call for raising the level of Canyon Road substantially to about where the continuing slide problem occurs, and with equipment on the job and construction underway, a continued raising of Canyon Road to the present slide problem area could be accomplished at a minimal figure if done now. If action is postponed to some future date, and this situation is trea as a separate project, cost would be much higher.

Also to be considered is the fact that until this adjustment is made the museum will continue to suffer the inconvenience and financial damage which results from the slippage.

Loren D. McKinley

cc: Bruce Hall
Larry Curtis
Jack Marks

PORTLAND ZOOLOGICAL SOCIETY

LC

Date: January 10, 1969

To: Commissioner Ivancie

From: Lawrence Curtis

Subject: Unstable Land Conditions in Zoo area.

For several years now the unstable land condition at the Zoo entrance has caused serious concern. Although the Zoological Society has had no direct or official responsibility in this matter, the possibility of the problem becoming a matter of serious future concern is present.

In evaluating the present Zoo condition and program as a basis for future planning and growth in our management proposal, the potential problems caused by the unstable land conditions have become a matter of immediate concern and some speculation. The purpose of this communication, therefore, is twofold.

First, to request permission of your office for access and review of previous studies of this land condition and to be apprised of whatever contingency plans which the City may have developed to resolve potential damages. Since a major structure, the commissary, is located in this unstable area potential damage could be costly.

Secondly, surface movements of the past several weeks have given the tenants in this area cause for serious concern that some of the above mentioned potentials are indeed rapidly becoming here and now facts. An unofficial discussion meeting has been initiated by the Oregon Museum of Science and Industry for next Monday, January 13 at 10 a.m., at the Museum with Mr. [illegible]. E. Johnson of the State Highway Department. Major topic of discussion will of course be the possible effect of highway work on the surface land movement. The Zoological Society has been invited to participate and will be represented. Enclosed for your information is correspondence relative to this meeting. On behalf of the Society I am wondering if Mr. Lang or some other representative of the City might be appropriate at this meeting.

ab

enclosure

cc: Dr. Howard Mason, President
Portland Zoological Society

Mr. Jack Marks, Director
Portland Zoo

RECEIVED
JAN 10 1969

OREGON STATE
HIGHWAY DEPARTMENT

METROPOLITAN SECTION

5821 N.E. GLISAN • PORTLAND, OREGON • 97213 • Phone 235-8911

January 8, 1969

Mr. Loren D. McKinley
Executive Director
Oregon Museum of Science & Industry
4015 S. W. Canyon Road
Portland, Oregon 97221

Dear Mr. McKinley:

Reference is made to your letter of December 27, 1968 concerning the current construction on Canyon Road.

I would also refer to my telephone call to you on January 2 advising you that we would meet with you and Mr. Bruce Hall, your legal representative, at a time to be determined by you.

On January 2nd I reminded you that I had gone over the plans for this project with you prior to letting our contract and advised you that we were not contemplating any cutting of the bank on the north side of the highway. I also advised you that this was still true and our current project does not provide for any cutting on the north side of the highway. Some clearing has been performed to accommodate fill in order to raise the level of the highway and which fill will be of benefit to the slide conditions in the Zoo and OMSI area to which you referred.

Except for one Sunday on which a slide occurred, access to OMSI has remained open with only minimum delays occurring. During the slide referred to above, of course, there was access to the Zoo area and OMSI via the north frontal road from Sylvan.

Again, we will meet with you at any time you choose, and I will await your call for such a date.

Yours very truly,

A. E. Johnson
Metropolitan Engineer

NOTED
R. L PORTER

AEJ:lh

bcc: F. B. Klaboe
F. D. Morgan
G. E. Rohde

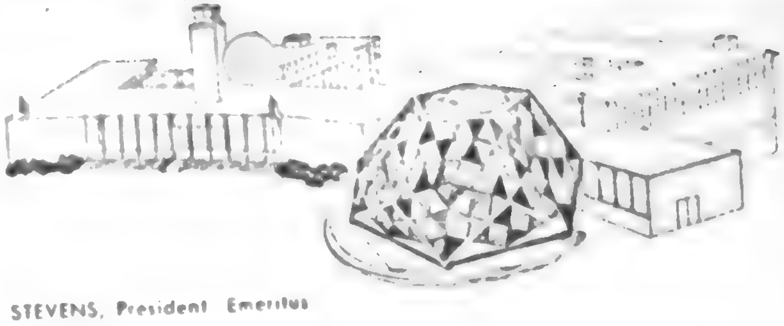
Cooper - Porter

NOTED
FORREST COOPER

RECEIVED
JAN 9 1969
OFFICE OF
STATE HIGHWAY ENGINEER

omsi

OREGON MUSEUM OF SCIENCE & INDUSTRY
4015 S.W. Canyon Road Portland, Oregon 97221
226-4518



J.C. STEVENS, President Emeritus

December 27, 1968

Mr. A. E. Johnson
Metropolitan Engineer
State Highway Department
5821 N. E. Glisan Street
Portland, Oregon

Dear Mr. Johnson:

The Board of Trustees of the Oregon Museum of Science and Industry is deeply concerned about construction on Canyon Road, immediately adjacent to the entrance to the Zoo and OMSI. Due to traffic tie-ups our museum, during the month of December has, conservatively, lost $10,000 in admissions.

Certainly, you people above all must be aware of the very critical slide situation, and the drastic cutting of the banks on both sides of the road will, in the opinion of several very competent geologists, result in a furthering of OMSI's slide problems.

Mr. Bruce Hall, our legal representative, and I would very much like to confer with you concerning this matter in the near future.

Sincerely yours,

Loren D. McKinley

Loren D. McKinley
Executive Director

LDM:jr
Cc: Mr. Bruce Hall

Called Mr McKinley Jan 7-69
@ 2:20PM. Again advised him we
would do no cutting on N side
Canyon Road. Mr McKinley will
arrange time for above meeting with
Mr Bruce Hall & advise me.
AEJ

METROPOLITAN ENGINEER
RECEIVED
DEC 30 1968
☐ ME ☐ AME ☐ AME ☑ MOE ☐ MOE ☐ MTE

A non-profit, educational organization dedicated to the advancement of science and industry through the youth of the region.

Zoo Slide Perils People, Animals

Both people and animals are occupying rather precarious quarters these days as land continues to shift and slide downward from the hillside-perched Portland Zoo.

A large crack in a concrete-block retaining wall directly below the zoo administration building threatens to tumble both the wall and surrounding earth, although officials say the wall has "shifted and been repaired, shifted and been repaired" many times.

APPROACHING the giraffe house, home for the zoo's oft-visited Polka and Dottie, visitors experience vertigo climbing the series of concrete steps. Split away from their supporting wall by shifting earth, the steps now slope dolefully downward toward SW Canyon Road below.

Jack Marks, zoo director, noted that the giraffe quarters are of concrete block, split in several places by the earth's slight downward movement, but have been patched and repainted.

Further frustrating hardy winter visitors is a sunken grade in the blacktop road approaching the zoo. Patched, but bearing warnings to drivers, the road has cracked at approximately the same place several times before, Marks said.

AVERSE to making an engineer's judgment of the damage or danger to the zoo area, Marks confirmed Tuesday that the zoo has joined the neighboring Oregon Museum of Science and Industry in petitioning the State Highway Commission to help halt the sliding hillside earth.

Both organizations feel this could be accomplished if the Highway Department would extend a proposed fill another 300 yards in its present project of widening SW Canyon Road to six lanes.

A letter to the Highway Department stated that both facilities have been plagued with costly slides since the widening of Canyon Road to four lanes in the 1950s, and that this winter's slides have been the most severe in five years.

Sole animal casualty that can be attributed by the zoo to the earth movement was a female dromedary, which died during severe weather in late December.

Gas heat, which warms the dromedarys' paddock area, was cut off by winter disturbances.

★ ★ ★ ★ ★ ★

OMSI-Zoo Slippage Worrying Officials

The serious slide that threatens the Oregon Museum of Science and Industry and the Portland Zoo should be stopped permanently instead of being treated with halfway measures, the Association of Engineering Geologists of Oregon said Tuesday.

Recommendation that a restudy designed to permanently stabilize the slide area should be undertaken by the Zoo, OMSI and the State Highway Commission will be made, according to Robert Deacon, chairman of the Portland Section of the AEG.

"**WE ARE** concerned about the movement and slippage which has put the buildings at the Zoo and OMSI under stress, and strongly recommend that something be done," Deacon said.

He added that raising the grade on Canyon Road, as proposed by the Highway Department, may help stabilize the slide, but is not a corrective measure.

The geologists were asked to study the problem after the Zoo and OMSI protested plans of the Highway Department to make fills in connection with widening Canyon Road to six lanes.

HERB SCHLICKER, state geologist who recently studied and published a report on geological conditions in the Tualatin Valley, including Portland's West Hills, also said Tuesday that he thought the present plan to add weight to the toe (bottom) of the slide "would not do any harm, and might do some good," but he also questions that the fill will be "enough" to stop the continually moving earth.

Schlicker pointed out that the area has been sliding for years and that previous attempts made about 10 years ago to stop the slide with drainage tunnels have not been successful.

CUTS MADE on the toe of the slide to widen Canyon Road to four lanes and made to provide access to OMSI several years ago have probably made the slippage worse, the geologists explain.

"When support was removed from the bottom of the slide, it was just like pulling the plug." Sliding this winter has been the worst in five years.

Present highway plans for Canyon Road call for a fill of about 16 feet on the East Side of the highway, near the Zoo

RECEIVED
JAN 30 1969
FOR FILING
26-1181
7186

January 29, 1969

Mr. Glenn L. Jackson, Chairman
Oregon State Highway Commission
c/o Pacific Power & Light Company
216 West Main Street
Medford, Oregon 97501

(Original hand delivered to
Mr. Jackson - Portland)
1-30-69

Dear Mr. Jackson:

Reference is made to recent newspaper articles, correspondence, and telephone conversations relative to the slide adjacent to the Sunset Highway (Canyon Road) in Portland. This is at the Highlands Interchange and affects property occupied by the Portland Zoo and the Oregon Museum of Science and Industry. As you know, we have recently received a letter from Bruce M. Hall, asking for Highway Commission relief not only to existing facilities but also to proposed improvements in connection with the Western Forestry Center.

The matter first came to our attention during the construction of the Highlands Interchange which was contracted on August 30, 1957, and completed on December 23, 1959. As part of this project, considerable excavating was done as part of widening Canyon Road. The slippage at that time was of such moment that the City of Portland had the matter investigated by the firm of Dames & Moore, who are considered experts in this field. Their report indicated that instability was noted in this area prior to the turn of the century and has been a cause for concern and a problem ever since. They further stated that the 1959 slide was probably not caused by any single contributing factor but was a combination of natural and man-made occurrences. Because it was not possible to positively identify the highway construction as the sole cause of the slide, the Highway Commission and the City of Portland agreed that the Commission would pay the sum of $62,500 as a release from any past or future liability on the part of the Commission. I believe that this money was used to construct some remedial features consisting of a drainage gallery northerly of the cleavage or slip line.

Subsequent to this time, a claim was made by the Oregon Museum of Science and Industry that further settlements were endangering its building and while it was felt that the City's release absolved the Highway Commission of any responsibility, the Commission paid the sum of $3,263 to OMSI for a complete release of any responsibility, past present, and future as far as its facilities were concerned. I understand that the payment to OMSI was used to at least partially underwrite the cost of constructing a support under one corner of its building.

No further work in the area has been done by the Highway Department until last fall when a project to widen Canyon Road to six lanes from the Highlands Interchange to the Vista Ridge Tunnel was undertaken. The plans for this project call for filling in Canyon Road to depths ranging up to 25 to 30 feet in order to gain width for six lanes of traffic. No bank removal or cutting is contemplated in any area near either the Zoo or OMSI properties. In fact, the fill at the major point of slide movement is expected to be about 15 feet in depth and, if anything, will provide some restraint to the slippage.

We have been requested to carry our filling westerly just as far as the zoo interchange structure will permit or to raise the structure and carry the fill westerly so that the whole slide area is covered. The first request, while not too expensive, would accomplish practically nothing. The second request is indeed a major undertaking and, based on a quick estimate, will cost $1.25 million. This latter type of undertaking is too great a change to add to the existing contract and while it undoubtedly might offer some restraint to the slide, would be no guarantee of a cure.

Before anything so extensive is undertaken, I recommend that a thorough study be made by a competent expert in this field. I propose that we engage someone who could make an objective investigation of the problem.

Enclosed is a sketch entitled a "Plot Plan" on which is indicated in red Station 106 and Station 95. At Station 95, there is over 20 feet of fill to be placed in the existing contract. This tapers out to nothing at Station 106, which is just easterly of the interchange structure. The main portion of the slide is along the line marked B—B, with the slide moving generally from north to south. The line entitled "Cleavage Line" is the northerly limits of distress at the last time the area was inspected by this Department. This same information is indicated on a 1959 aerial photograph which shows not only the OMSI building but also the zoo complex partially under construction, and Canyon Road as it was under construction at that time.

Very truly yours,

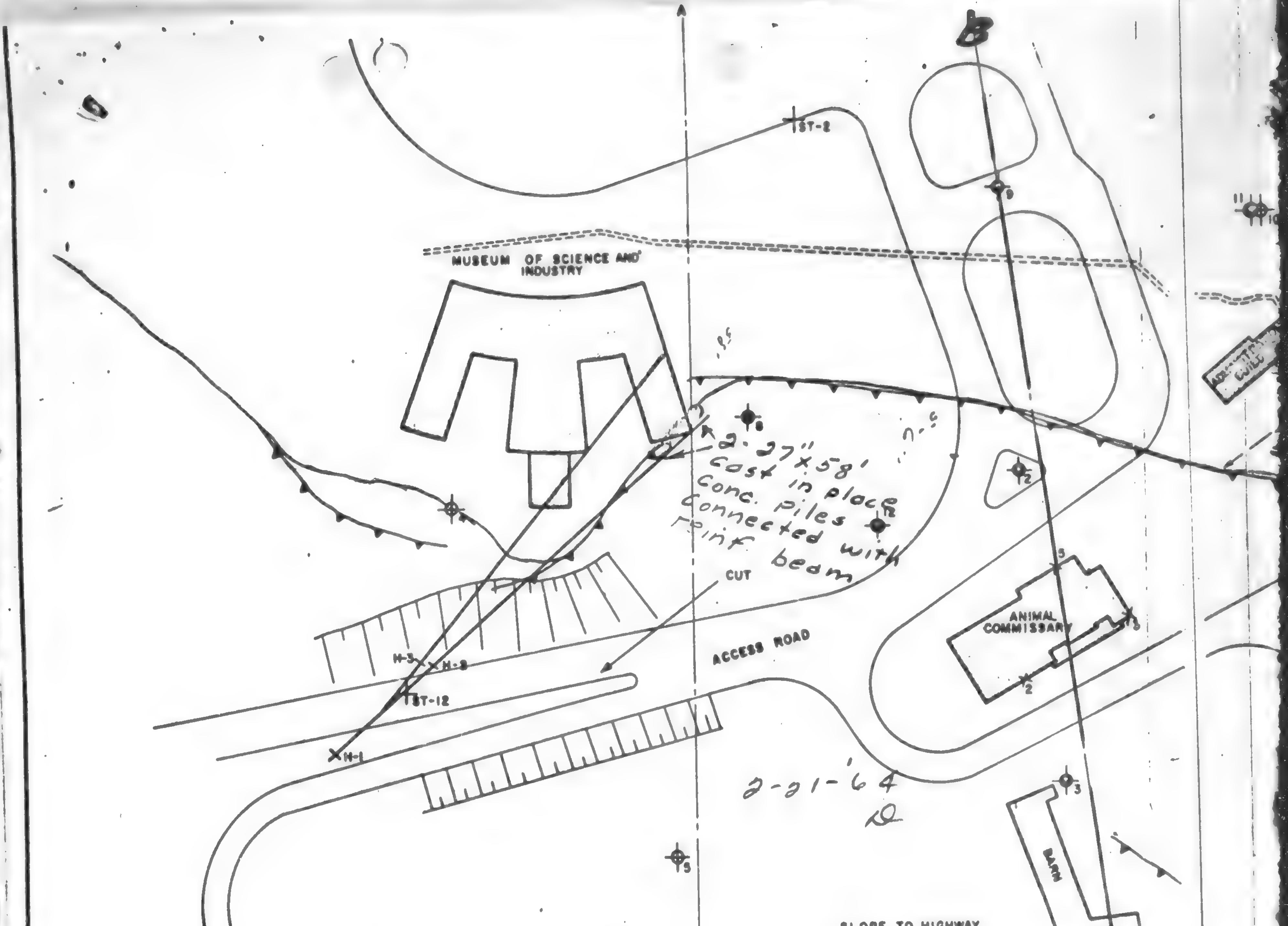
Forrest Cooper
State Highway Engineer

Enclosures

cc Governor Tom McCall)
Fred W. Hill)=with enclosures
Thaddeus B. Bruno)

cc R. L. Porter
F. B. Klaboe
Victor D. Wolfe
F. D. Morgan (Attn. G. L. Decker)
A. E. Johnson - with enclosures
D. J. Barbee - with enclosures

RLP:ms fn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MUSEUM OF SCIENCE AND INDUSTRY
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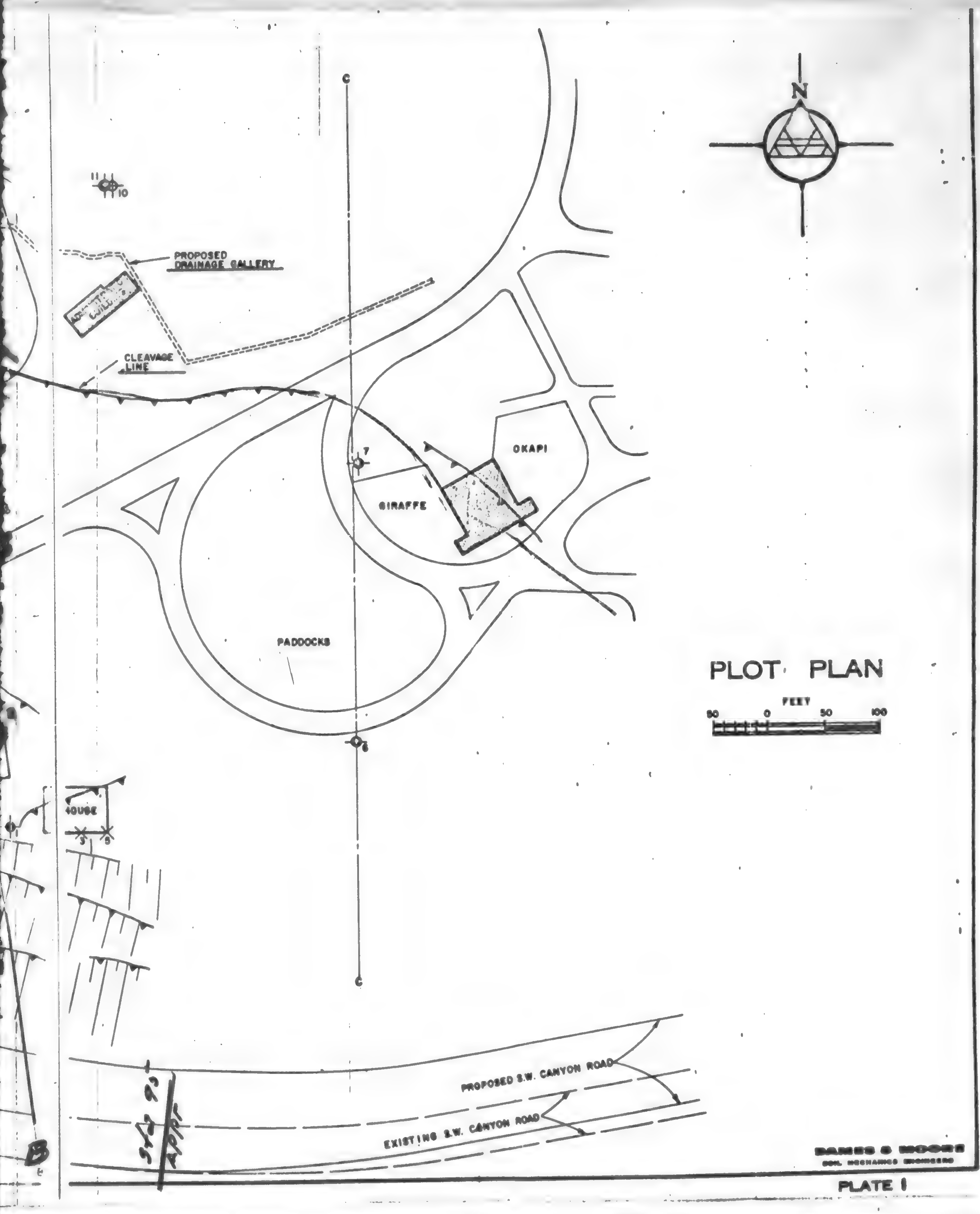
ANIMAL COMMISSARY
BARN
SLOPE TO HIGHWAY
HOUSE
A
B
LEGEND
BORING FOR DRAINAGE GALLERY
BORING WITH SLOPE INDICATOR
BORING WITHOUT SLOPE INDICATOR
STATE BORING
HORIZONTAL BORING
SEWER FAILURES JANUARY 1959
SETTLEMENT OBSERVATION POINT

2-27"x58' cast in place Conc. piles Connected with reinf. beam

2-21-'64

Sta 106 Appr.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PROPOSED DRAINAGE GALLERY
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OKAPI
GIRAFFE
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APPR

PLOT PLAN

DAMES & MOORE
SOIL MECHANICS ENGINEERS

PLATE I

Cleavage Line
B

Oregon State Highway Dept.
TRAVEL DIVISION
AERIAL VIEW
65-2
DATE FLOWN JAN 18 1959
PHOTOGRAPHER GENE KINNEY

Portland Zoo

RECEIVED
FEB 7 - 1969

CITY OF PORTLAND

INTER-OFFICE CORRESPONDENCE

(NOT FOR MAILING)

RECEIVED
JAN 28 1969
OFFICE OF COMMISSIONER
OF PUBLIC AFFAIRS

January 28, 1969

From Bureau of Parks

To Department of Public Affairs

Addressed to Commissioner Francis J. Ivancie

Subject Slippage at zoo

COMM.	VM
ASST.	F
SEC.	
STENO.	

Dear Commissioner Ivancie:

The movement of earth at the site of the new Portland Zoo was first apparent in August of 1958 after virtually all of the buildings and utilities had been constructed. A fracture line began to appear in an east and west direction and extended from the southeast corner of the Oregon Museum of Science and Industry easterly to a point near the Giraffe Building.

Dames and Moore Company, Soil Mechanics Engineers, were called in as consultants and they made extensive investigation and recommended that a series of wells be constructed on eight foot centers to a depth that would intercept the ground water that was lubricating the clay strata from forty to seventy feet below the surface. These wells were interconnected with culvert material at the bottom of the shaft and the water collected was all collected at the lowest well where automatic pumps were installed to remove the water and discharge it outside the slipping area. These wells have been operating since they were installed during the winter and spring of 1958-1959, and the earth movement was virtually stopped.

Periodic reoccurrence of the movement has been apparent after long periods of rain and usually is experienced in December and January. The principal damage has been to underground utilities and the buildings have suffered no major damage although some vertical movement has been measured.

The Park Bureau is of the opinion that surface runoff is finding its way into the fracture and continues to lubricate the slippage plane and that extensive corrective measures will be required to intercept and conduct this water over and around the cleavage plane. The Park Bureau plans to cut an intercepting drain trench from the vicinity of the golf course club house, easterly to the ravine east of the parking area, in an effort to cut off surface drainage from the golf course and arboretum which might be flowing under the present paved parking area. It is known that considerable water does flow through the sub-base of the parking area and that it must enter from above the paved area.

Certain soil stabilizing techniques have recently been developed using hydrated lime to convert wet clay into a granular condition which effectively destroys its mastic properties. We suggest the exploration of this technique as a possible solution to this problem at the zoo.

At its meeting on January 20, 1969 the Zoo Commission considered the problem and the minutes of that meeting state in part:

"Dick Fagan moved that the Zoo Commission urge the City Council immediately "to assess and evaluate the slide problem at the City Zoo and the OMSI area, and to confer with the State Highway Commission as to fill possibilities on the widening of Canyon Road and a possible solution to the problem. Dr. Stotler seconded the motion and it was unanimously carried."

"During the years 1958-60 the City spent $183,627.85 on the system of drainage wells at the zoo to prevent further slippage, but this past month has seen the worst yet."

The Park Bureau concurs in the recommendation of the Zoo Commission that a study be made by competent geologists and consultants to the end that a program be initiated to permanently reduce the earth slippage that could result in severe damage to zoo structures.

A map and tabulation of earth movement over the past eight years are attached for your information. The maximum measured horizontal movement has been 1.57 feet and the maximum vertical movement has been 1.45 feet.

Very truly yours,

Harry B Buckley
Superintendent of Parks

HBB:mg

cc - Hall
Staley
Zoo Commission Chairman

RECEIVED
1 1969

26-1191 | Cooper

7166 Files | Information

610 East Fifth Street
Vancouver, Washington

January 28, 1969

08-72.374

J. H. Burton, Chief Survey and Design Branch
Vancouver, Washington

Oregon State Highway Construction - Canyon Road

On January 28, 1969 I received a telephone call from Mr. Malcom Cross, Radio Station KGW, concerning early construction activities on the Canyon Road entrance to the Portland Zoo. This project was constructed in 1958-1960 by the Oregon State Highway Department, at which time I was employed by them as the Resident Engineer.

Mr. Cross was particularly interested in the disposition of cut material in the disposal area between the Zoo and Washington Park. He also inquired into early corrective measures taken and/or considered and discarded.

I discussed briefly the change in design slopes below the old golf clubhouse to a bench section and also the extensive underdrain investigations and installations. I also referred him to Mr. A. E. Johnson, Metropolitan Engineer, Oregon State Highway Department.

Porter

cc: W. B. Wood, Portland
R. E. Simpson, Salem
Oregon State Highway Department, Salem

JHBurton:alk

RECEIVED
JAN 29 1969
OFFICE OF
STATE HIGHWAY ENGINEER

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RECEIVED
JAN 31 1969

FOR FILING
26-1181

7186

Salem, Oregon
January 23, 1969

R. L. Porter
Deputy State Highway Engineer
OFFICE

In connection with the campaign that is being carried out by OMSI to get the Highway Commission to make some changes in the construction project now underway on Canyon Road, Mr. Jackson has requested a letter from us giving him certain facts re the engineering matters involved and also details of the release that we have from both the Zoo and OMSI and any pertinent background material. The engineering data should mention briefly the history of slides in the area; the fact that we are not removing any material from the toe of these slides but are rather in effect building a surcharge which would tend to stabilize the area and other items which you feel might have a bearing on this matter.

I believe this should be expedited.

Forrest Cooper
State Highway Engineer

FC:fn

cc Victor D. Wolfe

RECEIVED
JAN 16 1969
FORM E-30X—50M—7-66

SP*23811-734

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon
January 13, 1969

56-1131
7186

SUBJECT: Highlands Interchange-Vista Ridge Tunnel
Contract 7186

To: Memo to the Files

On December 30, 1968, a letter was received from Mr. Loren D. McKinley, Executive Director of Oregon Museum of Science & Industry, indicating concern about construction on the subject project and the effect of our excavation on sliding conditions and loss of revenues to OMSI during the month of December. A copy of this letter, as well as my answer to Mr. McKinley dated January 8, 1969, were sent to persons indicated below.

At 10 A.M. this date a meeting was held at the offices of OMSI, which was attended from the Highway Department by A. E. Johnson, Metropolitan Engineer; A. V. Benedict, Assistant Metropolitan Engineer; and Alan Johansen of the Legal Division, Salem. Also attending were the following: Mr. Loren McKinley and Mr. Clint Gruber of OMSI; Mr. Larry Curtis, Director of the Zoological Society; Mr. Bruce Hall, Attorney and Director of OMSI; Mr. Jack Marks, Zoo Director; Mr. Roland Hall and Mr. Al Staley, both of the City of Portland Park Bureau.

Mr. McKinley opened the meeting by supplying copies of notes he had prepared for the meeting, a copy of which is attached hereto. Mr. McKinley explained that these notes comprised a series of events which have happened, all of which were not necessarily caused by the Highway Department. He explained that even small delays to traffic have resulted in late arrivals of school buses carrying students to the planetarium shows, which are scheduled hourly.

Mr. Larry Curtis explained that the Zoological Society at the present time operates the concession activities of the Zoo but that the Society is putting together a proposition to operate the entire Zoo. He admitted to being a relative newcomer to the area and questioned the people assembled regarding the highway construction of the Highlands Interchange project and the effect on the sliding in the Zoo area. Mr. Jack Marks indicated that sliding did not occur until after our highway project was started, and Mr. A. V. Benedict indicated that we had established an elevation bench mark along the sidehill below the OMSI Building in connection with our location work and during this location work detected movement which substantiated sliding prior to our work.

Mr. McKinley stated that some three or four geologists had made investigations and had reported to OMSI Board of Directors, and all had recommended that either additional rock should be placed at the toe of the slope or the area subexcavated and replaced with rock. He stated they were interested in determining if the placing of fill could be extended westerly in order to stabilize the slide condition in the OMSI area as well as the Zoo area. We advised the group that if a fill were extended westerly of the Highlands overcrossing that it would probably entail raising the structure, which would be quite an expensive operation. It was pointed out that on the present plans the fill will terminate approximately 300 to 400 feet easterly of the overcrossing. It was also indicated as a result of questioning that fill could be extended to the overcrossing structure without requiring the raising of the bridge but that any benefit to the OMSI slide area would have to be determined by a geological study.

Mr. Bruce Hall, Larry Curtis and Loren McKinley were interested in determining if there was any possibility that the Highway Department would extend the fill as a means of correcting slide conditions, and it was pointed out that earth movement had occurred just north of the Highlands overcrossing structure, causing cutting of the sidewalk to relieve pressure on the end of the bridge. I advised the group that the expenditure of highway funds was covered by law and that usually benefit to the highway for expenditures must be indicated but that the final approval of such expenditure would be with the Higmway Commission. Mr. Alan Johansen verified this, and on question from the group as to proper procedure to initiate such a request it was indicated they should address the request to the Highway Commission and that it would undoubtedly be referred to the Highway Department staff for study and report.

Mr. Larry Curtis indicated that he understood settlements had been made by the Highway Department, and Mr. Alan Johansen explained previous cash settlements to both the City in connection with the Zoo and to OMSI later, without naming any specific amounts. Mr. Curtis asked if our work was considered to cure the slide problem, and he was told that our work involved widening Canyon Road without consideration of curing slides.

Mr. McKinley and Mr. Curtis both indicated that their respective Boards of Directors would be agreeable to asking the Highway Department to extend their fills, whereupon the meeting was adjourned. It is anticipated that a request will be made.

I referred to Mr. McKinley's letter in which he stated that due to traffic tie-ups OMSI had lost conservatively $10,000 in admissions during December. I stated that except for slides on two different days—one on a Sunday which closed the eastbound lanes, and one recently which closed the westbound lanes for part of a day—that traffic was open to full four lanes during each peak hour morning and night and open to one lane of traffic each way the balance of the time and that delays to traffic had been very nominal. It was suggested that possibly school buses could be routed to OMSI via W. Burnside and Skyline in order to eliminate traveling through the construction area, or that schools be advised there are delays which are unavoidable.

A. E. Johnson

A. E. Johnson
Metropolitan Engineer

AEJ:lh
Att

cc: F. B. Klaboe
F. D. Morgan
G. E. Rohde, Attention Alan Johansen
D. J. Barbee

RECEIVED
JAN 15 1969
OFFICE OF
STATE HIGHWAY ENGINEER

NOTES FOR MEETING WITH STATE HIGHWAY COMMISSION, MONDAY, JANUARY ~~20~~ 13, 1969

The current construction on Canyon Road has, to date, caused the following severe financial injuries to the Oregon Museum of Science and Industry:

During the month of December, 1968, with heavy planetarium schedules at specific times, buses very often arrived late, thus preventing students from enjoying the planetarium show, and resulting in loss of income to this museum.

Slides have blocked Canyon Road (including one on the weekend) cutting normal attendance drastically.

Earth slippage parted telephone cables during the period of class registration, and consequently there was a substantial drop in the number of students registering and a loss of income from class fees.

The lack of telephone service also had an adverse effect on our relationship with our members and potential visitors as they became exasperated when repeatedly getting a busy signal when trying to call to register for classes, sign up for field trips or obtain information on other museum programs.

Adverse publicity in the newspapers and other news media concerning the series of slides on Canyon Road causes apprehension in potential visitors who fear to travel the road to OMSI because of the uncertain and hazardous conditions existing.

It would appear that if the State Highway Commission is ever to rectify what some geologists say was a very serious error in cutting the toe from the hillside below OMSI and the Zoo, now is the time! Plans call for raising the level of Canyon Road substantially to about where the continuing slide problem occurs, and with equipment on the job and construction underway, a continued raising of Canyon Road to the present slide problem area could be accomplished at a minimal figure if done now. If action is postponed to some future date, and this situation is treated as a separate project, cost would be much higher.

Also to be considered is the fact that until this adjustment is made the museum will continue to suffer the inconvenience and financial damage which results from the slippage.

Loren D. McKinley

cc: Bruce Hall
Larry Curtis
Jack Marks

c

RECEIVED
DEC 12 1968
FOR FILING

26-1181

7186

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE
Salem, Oregon

December 9, 1968

To: MEMORANDUM TO FILE:

SUBJECT: West Slope Water District

On October 31, 1968, I wrote to Mr. Robert Recken, attorney for West Slope Water District, requesting to know the reasons why West Slope Water District desired to obtain from us the amount of fill that had been placed on West Slope's water pipes in old Jefferson County Road and Canyon Road, following the passage of Chapter 272, Oregon Laws 1967, which became effective September 13, 1967. As you will recall, the above statute requires the State to pay utility relocation costs to water districts unless they are within state highway right of way under permit.

On this date Mr. Recken called and stated that the reason they desired the cross sections was to determine how much of their line was buried in Jefferson and Canyon Roads, after the date of the Act, to see whether or not they felt it was worth making a claim for their buried pipe. He stated that some of the pipe was under permit from the Highway Department in Canyon Road and it may be there is only a short section in Jefferson Road, in which case it would not be worth their trouble to even make a claim.

Mr. Recken indicated, after I asked him why they had not salvaged their pipe when they had an opportunity to do so, that their engineer had felt that due to the age of the pipe it would not be worth salvaging.

I informed Mr. Recken that we would furnish him the cross sections after we had reviewed them, since they are public records.

FRANK C. McKINNEY
Assistant Counsel

FCMcK:ks
cc: R. L. Porter
F. B. Klaboe
L. H. Young
Al Johnson
G. E. Rohde

RECEIVED
DEC 11 1968
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
NOV 8 - 1968
FOR FILING

**OREGON STATE
HIGHWAY DEPARTMENT**

26-1171
7186

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

October 31, 1968

NOTED
R. L. PORTER

Mr. Robert L. Recken
Attorney at Law
Public Service Building
Portland, Oregon 97204

Re: West Slope Water District

Dear Mr. Recken:

On April 4, 1968, Mr. V. M. Blackwell, Manager West Slope Water District, commenced requesting plans from our Metropolitan Division showing the depth of fill placed over the District's abandoned 12-inch water supply line in Jefferson Road as of September 12, 1967. His letter was forwarded to the Legal Department for our comments, suggestions and recommendations.

As you may know, between the 6-month DeLong case and our beach cases, which were in addition to our usual condemnation and other work, we have not had an opportunity to fully analyze or answer Mr. Blackwell's request.

I am writing to you to ascertain the reasons for the request. I am sure you are fully aware that we have given the District every opportunity to remove any portion of the 12-inch line they desired to salvage. I am also sure you are aware that at one time the District requested us to reconnect their line in the vicinity of the Vista Ridge Tunnel. Pursuant to the District's request we purchased special fittings to make the reconnection. We were then informed by the District that they did not desire to have the pipeline reconnected and, as a result, it was necessary for us to dispose of the special fixtures at salvage value.

We would appreciate your reply before taking any further action on Mr. Blackwell's request.

Yours very truly,

G. E. ROHDE
Chief Counsel

By

FRANK C. McKINNEY
Assistant Counsel

RECEIVED
NOV 4 1968
OFFICE OF
STATE HIGHWAY ENGINEER

FCMcK:ks
cc: Mr. V. M. Blackwell

Mr. R. L. Porter
Mr. F. B. Klaboe
Mr. A. E. Johnson
Mr. Ted Litchfield

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
DAVID B. SIMPSON, MEMBER
PORTLAND
FRED W. [illegible], MEMBER
HELIX

FLOYD QUERY, SECRETARY
SALEM

RECEIVED
OCT 25 1968

24-1181
7166

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

FORREST COOPER
STATE HIGHWAY ENGINEER
R. L. PORTER
DEPUTY STATE HWY. ENGR.
G. E. ROHDE
CHIEF COUNSEL

October 23, 1968

Peter Kiewit Sons' Co.
215 W. "V" Street
Vancouver, Washington 98663

Gentlemen:

We enclose for your files a fully executed copy of the following described contract which was awarded to you by the State Highway Commission:

> Contract No. 7166 for grading, paving, signing and illumination on the Highlands Interchange-Vista Ridge Tunnel Section of the Sunset Highway in Multnomah County.

A copy of this contract is also being sent to the surety on your performance bond.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

wln

Encl.

cc The Aetna Casualty & Surety Co.
Bond Department
1201 S. W. 12th Avenue
Portland, Oregon 97205

L. H. Young
F. D. Morgan
I. D. Merchant
A. E. Johnson
E. L. Scrivner

RECEIVED
OCT 15 1968
FOR FILING

26-1181

7186

October 14, 1968

Peter Kiewit Sons' Company
215 South "V" Street
Vancouver, Washington 98663

Gentlemen:

Enclosed are three copies of Contract No. 7186 for $2,399,339 awarded to you by the State Highway Commission on October 14, 1968. This contract is for grading, paving, signing and illumination on the Highlands Interchange-Vista Ridge Tunnel Section of the Sunset Highway in Multnomah County.

Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The completion date on this contract is June 30, 1970.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By
C. W. Reed, Assistant Secretary

fkm
Encl.
cc Frank Morgan
L. H. Young
I. D. Merchant
C. D. Matthis
A. E. Johnson
E. L. Scrivner

RECEIVED
SEP 19 1968
FOR FILING

36-1181
7186

FORM E-30X—50M—2-66 SP*23500-734

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
September 18, 1968

To: Mr. F. B. Crandall
Traffic Division Engineer
BUILDING

SUBJECT: Route Approval
Highlands Intchnge-Vista Ridge Tunnel
Sunset Hwy No. 47 (US 26)
City of Portland

Attention: R. L. Schroeder

Herewith are two copies of approved maps, and additional maps should you need them, as well as cover letters regarding City of Portland's approval of subject project within the metropolitan area of Portland. Please take the necessary action of informing the BPR and furnishing them the data in conformance with provisions of IM 50-2-65.

Copies of the data have been forwarded to the Highway Commission Secretary for filing and one signed copy retained in this office.

H. S. Cox
County and City Engineer

By

D N Harwell
D. N. Harwell
Assistant County and City Engineer

DNH:mm

Att.

cc: Floyd Query (w/attach)
R. L. Porter
F. B. Klaboe
V. D. Wolfe
L. E. Young
F. D. Morgan
A. E. Johnson

Query

DEPARTMENT OF PUBLIC WORKS
WILLIAM A. BOWES
COMMISSIONER

1851

BUREAU OF TRAFFIC ENGINEERING
D. E. BERGSTROM
TRAFFIC ENGINEER

OFFICE ADDRESS: 430 S. W. MAIN ST.
MAILING ADDRESS: 414 CITY HALL - 97204

CITY OF PORTLAND
OREGON

September 10, 1968

Mr. H. S. Cox, County and City Engineer
State Highway Department
Salem, Oregon 97310

Dear Mr. Cox:

As requested in your letter of August 6th, I am returning one signed copy of your letter and four signed copies of your map showing proposed improvement of the Sunset Highway between the Highlands Interchange and Vista Ridge Tunnel.

I am also returning one copy of your resources form concerning proposed landscaping of the Stadium Freeway between Johnson and Montgomery Streets.

Sincerely,

D. E. Bergstrom

D. E. BERGSTROM
Traffic Engineer

DEB:ba
6 Copies Encl.

RECEIVED
SEP 12 1968
ENGINEER
COUNTY & CITY DIVISION

NOTED
DON HARWELL

FORM E-123

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD

FRED W. HILL, MEMBER
PENDLETON

THADDEUS B. BRUNO, MEMBER
PORTLAND

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

August 6, 1968

Portland City Council
City Hall
Portland, Oregon 97204

Attention: Mr. Fred Fowler
Highway Engineering Coordinator

Gentlemen:

The Oregon State Highway Commission has tentative plans to advertise for bids to be received on September 5, relating to the reconstruction of the Highlands Interchange-Vista Ridge Tunnel Section of the Sunset Highway (US 26) in Portland.

Five sketch maps are enclosed for your consideration and approval. If approval is given, please return a signed copy of this letter and four signed copies of the map to this office; and retain the extra copy for your files.

Pursuant to Bureau of Public Roads' rules and regulations, we must obtain your approval on projects within the metropolitan area. We therefore request your earliest consideration and approval so we may receive the Bureau's concurrence.

Full sets of plans will be forwarded to you upon their availability for your consideration and use.

Should any questions arise on this or other matters, please feel free to contact this office.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

H. S. Cox
H. S. Cox
County and City Engineer

APPROVED BY
CITY OF PORTLAND

By Wm A Bowes
Comm P.W.

By D. E. Bergstrom
[illegible]

Date 9-3-68

(Copy to A. [illegible] Johnson)

APPROVED
AUG 30 1968
By
City Engineer
Reg. Prof. Engr. 5466

NOTED
DON HARWELL

FORM
COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
FRED W. HILL, MEMBER
PENDLETON
THADDEUS B. BRUNO, MEMBER
PORTLAND

RECEIVED
SEP 25 1968
FOR FILING

Concur

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

September 12, 1968

Oregon State Highway Commission

Gentlemen:

It has been planned to contract the reconstruction of the Sunset Highway between Highlands Interchange and the Vista Ridge Tunnel sometime this fall. This work will be a conversion of the existing facility to a divided 6-lane freeway which will continue the now constructed 6-lane section westerly of the Highlands Interchange to the Vista Ridge Tunnel presently under construction. It is essential that this work be completed at about the same time the tunnel is so that the heavy volumes of traffic may be handled with the least amount of inconvenience and disruption.

On September 10, we were advised by the federal Bureau of Public Roads that all federal-aid contracting is frozen and will continue to be frozen until probably sometime around December 1. It is not desirable that this project be delayed this long, and I recommend therefore that the work be undertaken as a State project. It is estimated to cost approximately $2 1/2 million and could be added to the current State Construction Program.

The matter was verbally approved by Mr. Jackson on September 11, 1968, and will be on the agenda for the October 1 meeting for your confirmation.

Very truly yours,

Forrest Cooper

Forrest Cooper
State Highway Engineer

NO
FORREST COOPER

9-13-68
I agree.
TBruno

RECEIVED
SEP 16 1968
OFFICE OF
STATE HIGHWAY ENGINEER

General Files

OCT 1968

UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
477 Cottage St. Ne. - Salem OR 97301

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

26-1181

7186

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

DATE: September 12, 1968

In reply refer to: 08-35-EC

SUBJECT: Oregon Project U-318(12)
Highlands Interchange-Vista Ridge Tunnel
Withdraw Project

Attached are the program data for this project as requested by Mr. Young's September 9 letter. We have marked our records to show this project as withdrawn.

Enclosures
PR-1
(Direct to Mr. R. N. Chase)

9-16-68
Young

NOTED
F. B. KLABOE

RECEIVED
SEP 17 1968
OFFICE ENGINEERING
DIVISION

RECEIVED
SEP 16 1968
OFFICE OF
STATE HIGHWAY ENGINEER

NOTED
R N CHASE

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

RECEIVED
SEP 11 1968
FOR FILING

26-1181
7186

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

September 11, 1968
Salem, Oregon

To: Memo to File

SUBJECT: Canyon Road Section
Sunset Highway

On September 10, I called R. E. Simpson, Division Engineer of the Bureau of Public Roads, and asked him if the proposed project on Canyon Road from the Zoo Interchange to the Vista Ridge Tunnel could be undertaken under Section 25 of the 1968 Federal-Aid Highway Act. I stated it was not clear as to whether this could come under the program freeze the same as normal federal-aid projects. Mr. Simpson said he did not know but would inquire and advise.

On this date, Glen L. Green, Assistant Division Engineer of the BPR, stated they had word from their Washington, D.C. office that this type of project comes under the announced deferral.

Inasmuch as the freeze will not be lifted until at least December 1, we will proceed with this section as a 100 percent State-financed project.

R. L. Porter
Deputy State Highway Engineer

RLP:ms
cc Forrest Cooper
F. B. Klaboe
Victor D. Wolfe
L. H. Young
F. D. Morgan
C. H. Maison

FORM E-123

RECEIVED
SEP 10 1968
FOR FILING

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
FRED W. HILL, MEMBER
PENDLETON
THADDEUS B. BRUNO, MEMBER
PORTLAND

36-1181
7186

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

September 10, 1968

Pacific Power & Light Company
Public Service Building
Portland, Oregon 97204

Re: Power Service
Vista Ridge Tunnels
Sunset Highway
Multnomah County

ATTENTION: Mr. R. H. Sallee

Gentlemen:

Your lump-sum estimate for the installation of power service to the Vista Ridge Tunnels, as submitted with your letter of August 29, 1968 has been approved by the State. This estimate covers Proposal #3 for power service as set out in your letter of July 27, 1967 and approved by our letter of September 25, 1967.

Reimbursement for work performed on and subsequent to September 25, 1967 in the amount of $3,349 will be made in accordance with Paragraph 7g (3) of PPM 30-4 upon receipt of your statement of charges. Please be sure to include the beginning and completion dates of the work in the bill.

NOTED
F. B. KLABOE

Very truly yours,

F. D. Morgan
Construction Engineer

By: Jackson Cartwright

for T. W. Litchfield
Utilities Liaison Engineer

JMC:ss
cc: F. B. Klaboe ✓
I. D. Merchant (w/attach.)
L. H. Young (2) (w/attach.)
C. H. Maison (w/attach.)
A. E. Johnson (2) (w/attach.)
Wm. Ikola (w/attach.)
Geo. Hopkins (w/attach)
Jack Hesla (w/attach.)

RECEIVED
SEP 10 1968
OFFICE OF
STATE HIGHWAY ENGINEER

[illegible]
SEP 10 1968
[illegible]
26-1181
7186

September 9, 1968

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage St. N. E.
Salem, Oregon

Highlands Interchange-Vista Ridge Tunnel Sec.
U-318(12)

Dear Sir:

In conformance with the telephonic conversation between Mr. Girvin and Mr. Chase this date, we hereby request the program data, submitted under our letter of August 1, 1968, for Urban Item 154, Project U-318(12), be returned to the State without program action.

It is our present intention to construct said project without federal participation.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

L. H. Young
Office Engineer

RNC:la
cc: R. L. Porter
F. B. Klaboe
R. N. Chase

RECEIVED
AUG 26 1968
FOR FILING

26-1181

7186

SP*23500-734

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon
August 22, 1968

SUBJECT: Highlands Interchange-Vista
Ridge Tunnel Project
West Slope Water District

To: Mr. G. E. Rhode
Chief Counsel
Salem

Attention: Mr. Frank C. McKinney

For your information there is enclosed a copy of a letter which was received in this office from Frank J. Myslony, Chairman of the Board of Commissioners, West Slope Water District. We do not know whether this was the original letter or a copy and hence are forwarding for your information. Also enclosed are copies of the two letters referred to in Mr. Myslony's letter. These letters are forwarded to you for further information concerning the correspondence from West Slope Water District sent you very recently.

A. E. Johnson
Metropolitan Engineer

AEJ:lh
Enc
cc: V. B. Klaboe
F. D. Morgan

RECEIVED
AUG 23 1968
OFFICE OF
STATE HIGHWAY ENGINEER

WEST SLOPE WATER DISTRICT
WASHINGTON COUNTY, OREGON

3105 S.W. 89TH AVENUE • TELEPHONE 292-2777
PORTLAND, OREGON 97225

August 20, 1968

Oregon State Highway Department
Salem, Oregon 97310

RE: Highlands Interchange-Vista Ridge Tunnel
Section Sunset Highway - Multnomah County

Gentlemen:

This is in reply to Mr. Morgan's letter of June 19, 1968 and Mr. Hesla's letter of July 9, 1968.

Insofar as the valve vault referred to as a manhole in Mr. Hesla's letter is concerned, the District does not intend to salvage any of the material or fittings. 1967-68 construction which placed excessive fill over the pipe line and appurtenances has caused the supply line to become unusuable.

Very truly yours,

WEST SLOPE WATER DISTRICT

Frank J. Myslony
Chairman, Frank J. Myslony
Board of Commissioners

FJM:ef
cc: Mr. Jack Hesla
Field Utilities Liaison Engineer
Portland, Oregon

COMMISSIONERS
GLENN L. JACKSON Chairman
Medford
~~[illegible]~~
~~[illegible]~~
Fred W. Hill, Member
Helix
Thaddeus Bruno, Member
Portland

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
5821 N. E. Glisan
Portland 97213

July 9, 1968

West Slope Water District
3105 S. W. 89th Ave.
Portland, Oregon 97225

Water Manhole at Sta. 82+93
Highlands Inter.-Vista Ridge Tunnel Sec.
Sunset Highway
Multnomah County
26.1783

Attention: Mr. Milton T. Hector
Chairman
Board of Commissioners

Gentlemen:

Reference is made to our letter of June 19, 1968 and the preliminary plans for subject project enclosed with it.

Noted on the upper left half of Sheet No. 6 of these plans is a notation "fill abandoned water manhole." This refers to a manhole on the District's 12" supply line which is no longer in service. Inspection reveals there are still some fittings located in the manhole which may be reusable or have salvage value to the District. If the District desires to salvage any material or fittings from the manhole, we request this be accomplished prior to the proposed opening of bids on September 5, 1968.

If salvage of materials is undertaken, we request you work during off-peak traffic hours and utilize maximum efforts in traffic control and work area protection.

Very truly yours,

Jack Heala

Jack Heala
Field Utilities Liaison Engineer

JH:lh

cc: A. E. Johnson ✓
T. W. Litchfield

METROPOLITAN ENGINEER
RECEIVED
JUL 9 1968
NOTED

RECEIVED
AUG 22 1968
FOR

SP*23500-734

26-1181

7186

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon
August 20, 1968

SUBJECT: Highlands Interchange-Vista
Ridge Tunnel Section
Sunset Highway
Prefix 26-1983

To: Mr. G. E. Rhode
Chief Counsel
Salem

Attention: Mr. Frank C. McKinney

I am enclosing herewith a copy of a letter from Mr. V. M. Blackwell, Manager of the West Slope Water District, dated August 16, 1968. Mr. Blackwell requests what action is being taken on his letter of April 4 requesting a profile showing the depth of fill placed over the West Slope Water District's 12" supply line as of September 12, 1967. Confirming our telephone conversation this date you will recall that on April 9, 1968, Mr. A. V. Benedict forwarded Mr. Blackwell's letter of April 4 for your reply. I would also refer you to Mr. Benedict's memo to the file of March 28, 1968, documenting a visit by Mr. Blackwell, during which visit he indicated the Water District's intention to institute a claim for any pipe buried after September 12, 1967.

In accordance with our conversation this date, I am writing Mr. Blackwell advising him that he will receive an answer to his letter shortly, and a copy of this letter is enclosed herewith.

Will you please advise any action you wish this office to take, if any.

Johnson

A. E. Johnson
Metropolitan Engineer

AEJ:lh
Enc
cc: F. B. Klaboe ✓
F. D. Morgan

RECEIVED
AUG 21 1968
OFFICE OF
STATE HIGHWAY ENGINEER

WEST SLOPE WATER DISTRICT
WASHINGTON COUNTY, OREGON

3105 S.W. 89TH AVENUE • TELEPHONE 292-2777
PORTLAND, OREGON 97225

August 16, 1968

Mr. A. E. Johnson
Oregon State Highway Department
5821 N. E. Glisan Street
Portland, Oregon 97213

Dear Mr. Johnson:

Would you please tell me what action you are taking on my letter of April 4, 1968, requesting a profile showing the depth of fill placed over our 12-inch supply line in Jefferson Road as of September 12, 1967.

Very truly yours,

V. M. Blackwell.

V. M. Blackwell, Manager

VMB:ef

METROPOLITAN ENGINEER
RECEIVED
AUG 19 1968
ME AME AME MOE MDE MTE

RECEIVED
AUG 22 1968
FOR FILING

COMMISSIONERS
~~GLENN L. JACKSON, CHAIRMAN~~
~~MEDFORD~~
~~KENNETH N. FRIDLEY, MEMBER~~
~~WASCO~~
DAVID B. SIMPSON, MEMBER
PORTLAND
Fred W. Hill, Member
Pendleton
FLOYD QUERY, SECRETARY
Thaddeus Bruno, Member
Portland

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 10

26-1181

7186

August 20, 1968

Mr. V. M. Blackwell, Manager
West Slope Water District
3105 S. W. 89th Avenue
Portland, Oregon 97225

Dear Mr. Blackwell:

This will acknowledge your letter of August 16, 1968, concerning your previous letter of April 4 requesting a profile showing the depth of fill placed over your 12" supply line in Jefferson Road as of September 12, 1967.

Your letter of April 4, 1968 was referred to our Legal Division for answer. They have advised me this date that due to an unusually heavy schedule of court cases they have delayed answering you but have assured me that you will receive an answer within a reasonable time. We regret that this delay has occurred.

Very truly yours,

A. E. Johnson

A. E. Johnson
Metropolitan Engineer

AEJ:lh

cc: F. B. Klaboe ✓
F. D. Morgan
Frank C. McKinney

RECEIVED
AUG 21 1968

Form FH-121 (4-67)
UNITED STATES GOVERNMENT

Memorandum

26-1181
7186

Klabo

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
477 Cottage St. NE. - Salem OR 97301

DATE: August 15, 1968

In reply refer to: 08-35-EC

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM : For R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Project U-318(12)
Highlands Interchange-Vista Ridge Tunnel
State Furnished Material: Steel H Piling

Under the provisions of PPM 21-6.3, paragraph 14, we find the use of steel H piling cut-offs to be in the public interest for this project as requested by Mr. Young's July 25 and August 2 letters.

Inclusion of information concerning the location and quantity of Piling is to be in the Special Provisions. It is understood that these piling cut-offs have no value as they are considered waste material from previous projects. Therefore, the only cost involved is handling and hauling from the various maintenance yards.

Young
8-20-68

NOTED
F. B. KLABO

RECEIVED
AUG 19 1968
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

RECEIVED
AUG 12 1968

FOR FILING
26-118
7186

August 9, 1968

Mr. Homer C. Chandler, Executive Secretary
Columbia Region Association of Governments
429 S. W. Fourth Avenue, Suite 500
Portland, Oregon

Dear Mr. Chandler:

In accordance with Section 204 of the Demonstration Cities and Metropolitan Development Act of 1966, we are submitting to you plans for a proposed project on the Sunset Highway (US26, FAP 27) between Highlands Interchange and Vista Ridge Tunnel for your review.

In addition to review comments on this project, we request that you indicate on the enclosed plans the future land use in the areas adjacent to the project. A color-code identifying the land uses for a depth of two or three blocks on both sides of the project would be adequate.

Upon completion of your review, please submit your comments and the land use maps to Mr. Robert Royer, Assistant Planning Survey Engineer, in our Traffic Engineering Division.

Your cooperation in this matter will aid in the programming of Federal-aid projects within the City of Portland.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

Tom Edwards
Assistant State Highway Engineer

bc Forrest Cooper
R. L. Porter
Victor D. Wolfe
F. B. Crandall
H. S. Cox
R. E. Royer
R. N. Chase

Attachment

WDA:mp ja

RECEIV
AUG 15 1968

UNITED STATES GOVERNMENT

Memorandum

26-1181

7186

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS

477 Cottage St. NE. - Salem OR 97301

DATE: August 5, 1968

In reply refer to: 08-35-DA

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Project U-318(12)
Highlands Interchange - Vista Ridge Tunnel

We find your plans generally acceptable but note the "necking down" of the shoulder to four feet at Stations 86 and 92. We find the material in this area to be apparently solid rock and question the necessity for such an alteration. We appreciate the fact that you are getting close to the slide area but the slide certainly could not be expected to shift if excavation was handled with care and during the dry period. Necking down the shoulder lanes to four feet would have some "shy" effect on this high density route and hence could restrict traffic at critical periods. If your concern is strong on this point I would recommend that consideration be given to including a specification that full shoulder widening for these short sections may be required during construction. After the area is opened up a reevaluation might indicate that there is no cause for alarm in which case the widening could be performed as extra work.

Since this project is within the Portland urbanized area the material required by IM 21-12-67 and IM 50-2-65 must be furnished to permit programing of this project. It would appear advisable that these matters be cleared as soon as possible so that no delay will be encountered in this area.

Orig to Young
8-7-68

RECEIVED
AUG 7 1968
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

RECEIVED
AUG 5 - 1968

FOR FILING

26-1121

7186

August 2, 1968

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage St., N.E.
Salem, Oregon

Project U-316(12)
Highlands Interchange
Vista Ridge Tunnel Section

Dear Sir:

In response to telephone request by Mr. Girvin to Mr. Chase regarding the estimated cost of moving the H piling to be furnished by the state for use on the subject project the following cost estimate has been received from our Metropolitan Division.

Maintenance Yard	Weight of Piling	Distance To Project	Moving Cost
Sunset	150 Tons	6.3 Miles	$ 2680
Cascade Locks	22 Tons	48 Miles	1130
Troutdale	4 Tons	20 Miles	176
Harmony Road	5.5 Tons	16 Miles	177
		Total Cost	$ 4163

We trust this will complete the information necessary for your approval of the use of state-furnished H pile on the project as requested in our letter of July 23, 1968.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

L. H. Young
Office Engineer

RNC:ed
cc: P. D. Morgan
I. D. Merchant
C. G. Swanson
R. N. Chase

OREGON STATE HIGHWAY DEPARTMENT

TO: Dick Chase

FROM: Bw

SUBJECT: U-318(12)
Highlands Intrch - Vista R Sec

DATE: 8/2/68

Metro Divn estimates following costs to move surplus to jobsite

From Sunset Yard 150T - 6½ Mi	$2680-
" Cascade Locks 22T - 48 Mi	$1130-
" Troutdale 4T - 20 mi	$176-
" Harmony Rd 5½T 14 Mi	$177-

Hardt - by Phone 8/2/68

(SIGNATURE)

PLEASE REPLY HERE

RECEIVED
AUG 2 1968
OFFICE ENGINEERING
DIVISION

CC: (SIGNATURE) (DATE)

1. SENDER SHOULD DETACH SHEET NO. 4 AND HOLD UNTIL REPLY IS RECEIVED, LEAVING 1st 2 CARBONS INTACT.
2. ADDRESSEE SHOULD REPLY, DETACHING SHEETS, RETAINING SHEET NO. 1 AND RETURNING SHEET NO. 3 TO SENDER.
3. SHEET NO. 2 MAY BE USED AS INFORMATIONAL CARBON COPY OR DESTROYED.

1

RECEIVED
AUG 2 - 1968

26-1181

7186

August 1, 1968

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage St., N. E.
Salem, Oregon 97310

Dear Sir:

We are submitting program data for one Urban Project, Item 154, Project U-318(12), Highlands Interchange-Vista Ridge Tunnel Section which we desire to have included in the Federal-Aid Urban Highway Program.

We hereby request program approval of the project as soon as the 1970 fiscal year Urban Funds are apportioned to the State.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

L. H. Young
Office Engineer

RNC:jb

MONTHLY TRANSACTION NO.

DATE SUBMITTED TO W. O.

FORM PR-1
(REV. 4-61)

FEDERAL - AID PROG

(PPM 21-1)-

CARD 2	REPORT NUMBER 1 (19) (20)	PROJECT LOCATION (45 typewriter spaces) US 26 0.1 Mi. E. Portland City Limits E. 1.11 Mi. 21 65	**ADT**	PRESENT 40,000	FUTURE 80,000 (66) (70)	YEAR 88 (71) (72)

CARD 3	CHARACTER OF PROPOSED WORK (35 typewriter spaces) Gr., Dr. High-Type Pave. 28 62	NATL. FOREST (63) (65)	FH ROUTE NO. (66) (68)	SUPV AGCY (69)	DA CLASSIF. (70)	DA AREA (71)	EMERG. YR. (72) (73)	PL. AUTH YR (74) (75)

CARD 4	CLASS OF FEDERAL FUNDS Urban	COUNTY NAME Multnoma
	NAME OF URBAN AREA 17-31 Portland	ROUTE NO. P FEDERAL-AID 27

ESTIMATED PROJECT COST

CARD 5	LINE NO.	CHANGE CODE	PROJECT CODE	WORK CLASS	WORK TYPE	STEP	TERMINI (Full description)	MILES	TOTAL ESTIMATED COST	FEDERAL FUNDS
1	(14-15)	(16	41	42	43 46	53		(54) (58)	(59) (66)	(67) (76)
5					**PE**		US 26 0.1 mi. E. Portland City Limits E. 1.11 mi.			
5					**ROW**		(Highlands Interchange- Vista Ridge Tunnel Section)			
5					**CONST** (CODE)			1.11	2,600,000	1,638,000

CARD 1	CODE 1	PREPARED BY	PROJECT TOTALS	1.11	2,600,000	1,638,000
1	14	PROGRAM APPROVAL DATES			(16) (23)	(24) (33)

Budget Bureau No. 41-R2067; Approval Expires February 28, 1966

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

65	**ADT**	PRESENT	FUTURE (66) (70)	YEAR (71) (72)	REGION	STATE NAME	STATE CODE (2) (3)	APPN CODE (4) (9)	ITEM NO. (14) (18)
		40,000	80,000	88	08	Oregon	35	032	154

PV AGCY (69)	DA CLASSIF. (70)	DA AREA (71)	EMERG. YR. (72) (73)	PL. AUTH YR (74) (75)	PROJECT NUMBER PREFIX LETTER(S) 14 23	PROJECT NUMBER NUMBER 7	PROJECT NUMBER SEQ. NO. 13	I. Projects Only POST MI. (24) (26)	I. Projects Only DESIG. 27
					U-	318(12)			

COUNTY NAME	Multnomah	CODE (14) (16)	051	PROGRAM STAGE	☐ 1 OR ☒ 2
ROUTE NO.	P	FEDERAL-AID (32)	27	STATE (36)	47
U.S. (37) (41)	26				

ESTIMATED PROJECT COST BY PHASES

MILES	TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS	CHARACTER OF PROPOSED WORK *(Full description)*
(54) (55)	(59) (66)	(67) (76)			Gr.,Dr. 6-12' lanes H.T. pave. with 10' shldrs., curb section, 10' median with barrier, 4' A.C. footpaths and lineal illumination installation. ROW - 180' minimum; Access Control - full; Parking Restrictions - complete; Utilities - adj. req. incl. prep. work.
1.11	2,600,000	1,638,000	962,000		
1.11	2,600,000	1,638,000	962,000		
	(16) (23)	(24) (33)			

REMARKS Additional Data: Items 99 and 116, Projects U-318(7) and U-318(8)

Remarks - contd.

The project includes as necessary incidental work the paving of the "OJ" line which was constructed under Project U-F-318(11) and extends beyond the east limits of the project.

The State intends to furnish Steel H Piling to the contractor for use in the construction of four temporary retaining walls as covered in letter of July 25, 1968 requesting approval of State-furnished material on the project.

Klaboe

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JUL 30 1968
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COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
FRED W. HILL, MEMBER
PENDLETON
THADDEUS B. BRUNO, MEMBER
PORTLAND

26-1181
7186

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

July 26, 1968

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage Street, N. E.
Salem, Oregon 97301

Right of Way Status
Urban Project
September 5, 1968
Bid Opening

Dear Sir:

I certify that to the best of my knowledge the following statements are correct in regard to the right of way for the Urban project scheduled for contracting on the above date.

On the following project all rights of way and rights of entry are acquired, and relocation advisory assistance has been provided where necessary in accordance with Paragraph 3h of PPM 80-5. The contractor may have immediate possession.

Highland Interchange-Vista Ridge Tunnel Section
Sunset Highway
Multnomah County

This certification does not include rights of way, rights of access, or rights of entry that are being purchased from utilities or railroads as part of agreements being handled by the Utilities Section. These will be certified separately by the Utilities Engineer.

Very truly yours,

G. E. ROHDE
Chief Counsel

John R. Oakes
Assistant Right of Way Engineer

JRO:AB
cc: F. B. Klaboe ✓
C. H. Maison
G. E. Rohde
T. W. Litchfield
W. H. Haskin
Frank Lowe
Duane Ridings
M. R. Mitchell

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JUL 2 6 1968

FOR FILING

26-1181
7186

July 25, 1968

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage St. N. E.
Salem, Oregon

Project U-318(12)
Highlands Interchange-
Vista Ridge Tunnel Sec.

Dear Sir:

The subject project is to be programmed in the near future when the 1970 fiscal year Federal Urban Highway Funds are apportioned.

We request your approval of the use of State-furnished material, as set forth hereinafter, in the construction of the project.

The material to be furnished without cost consists of approximately 3,921 lineal feet of 10 BP 42 and 3,585 lineal feet of 12 BP 53 steel H piling (random lengths) to be used in the construction of four temporary retaining walls as shown on the enclosed plan sheets. These walls are required in the stage construction of the roadbed fills and will remain in the finished fills.

The construction of each temporary retaining wall is to be bid as a lump sum and the bidding specifications will contain the fact that the State will furnish without cost to the contractor the required piling and list the State maintenance yards where said piling is available. We are enclosing a list of the maintenance yards showing the length, size and number of H piles in each yard.

We are of the opinion it is in the public interest and of benefit to the State and the Bureau of Public Roads, as the use of the State-furnished H piling will result in a considerable savings in the project cost as compared to the cost of requiring the contractor to furnish new piling for the temporary retaining walls.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

L. H. Young
Office Engineer

RNC:ia
cc: F. D. Morgan
I. D. Merchant
R. N. Chase
C. G. Swenson

Highlands Avenue - Tunnel Section
Sunset Freeway

Steel H-Pile, Sunset Maintenance Yard

8" Pile

Length	No.		No. Lin. Ft.
7'	1		7'
10'	1		10'
		Total	17'

10" Pile

Length	No.		No. Lin. Ft.
3'	9		27'
4'	35		140'
5'	31		155'
6'	92		552'
7'	131		917'
8'	147		1176'
9'	85		765'
10'	110		1100'
11'	34		374'
12'	45		540'
13'	20		260'
14'	7		98'
15'	2		30'
16'	3		48'
17'	1		17'
18'	1		18'
19'	1		19'
		Total	6236 Lin. Ft.

12" Pile

Length	No.		No. Lin. Ft.
10'	1		10'
11'			
12'	7		84'
13'	8		104'
14'	3		42'
15'	8		120'
16'	12		192'
17'	7		119'
18'	3		54'
19'	3		57'
		Total	782 Lin. Ft.

Steel H-Pile, Troutdale Maintenance Yard

10" Pile

Length	No.	No. Lin. Ft.
40'	1	-Omit-

12" Pile

Length	No.	No. Lin. Ft.
4'	1	4'
5'		
6'		
7'	1	7'
8'	1	8'
9'		
10'	1	10'
11'	3	33'
12'	2	24'
13'		
14'	2	28'
15'		
16'	1	16'
17'	1	17'
	Total	147 Lin. Ft.

Steel H-Pile, Cascade Locks Maintenance Yard

10" Pile

Length	No.	No. Lin. Ft.
3'	6	18'
4'	13	52'
5'	26	130'
6'	18	108'
7'	21	147'
8'	19	152'
9'	14	126'
10'	1	10'
11'	1	11'
12'		
13'	1	13'
14'	2	28'
15'	4	60'
16'	1	16'
17'	1	17'
18'	4	72'
	Total	960 Lin. Ft.

Steel H-Pile, Cascade Locks Maintenance Yard

12" Pile

Length	No.		No. Lin. Ft.
12'	3		36'
18'	1		18'
		Total	54 Lin. Ft.

Steel H-Pile, S. E. Harmony Road & 82nd Avenue Maintenance Yard

10" Pile

Length	No.		No. Lin. Ft.
5'	7		35'
6"	9		54'
7'	3		21'
8'	3		24'
9'	5		45'
10'	4		40'
11'	4		44'
		Total	263 Lin. Ft.

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AUG 14 1968
FOR FILING

26-1181

7186

July 12, 1968

MISC. CONTRACTS and
AGREEMENTS No. 3574 H l

City of Portland
City Hall
Portland, Oregon

Attention: Mr. Ray Smith
Auditor

7-9-68

Gentlemen:

Attached for your files are two copies of an agreement covering installation of illumination on the Highland Interchange-Vista Ridge Tunnel Section of the Sunset Highway.

We are retaining a copy of this agreement for the Commission's files.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fkm
Attachment

cc F. B. Crandall
(conformed copy)

RECEIVED
JUN 18 1968

Form [illegible]

UNITED STATES GOVERNMENT

Memorandum

Edwards

26-1121

7186

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
477 Cottage St. NE. - Salem OR 97301

DATE: June 13, 1968

In reply refer to: 08-35-DA

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Highlands Interchange - Vista Ridge Tunnel
Proposed Illumination

The preliminary illumination for the subject interchange and the "OJ" tunnel have been reviewed. The proposed layout appears to provide a satisfactory level of illumination and an adequate uniformity ratio. We understand that a few necessary minor changes are being incorporated in the final plans. The proposed work, subject to review of the final plans, is approved as a participating item in the overall contract as requested by Mr. Edwards' May 8, 1968 letter.

NOTED
TOM EDWARDS

Copy
Ivan
[illegible]
6-17-68

RECEIVED
JUN 17 1968
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

RECEIVED
JUN 12 1968
FOR FILING

Const
R/W
Sunset

June 11, 1968

5-8

Oregon State Highway Commission

Gentlemen:

A State-City agreement has been executed by the City of Portland covering the installation of illumination on the Highland Interchange-Vista Ridge Tunnel Section of the Sunset Highway.

This agreement provides that the State shall do the work of the project at an estimated cost of $150,000 and maintain the luminaire units after installation. The City is to pay for all electrical energy consumed. This is a Federal-aid Project.

We recommend your approval and request authority for the Secretary to sign the agreement for and on your behalf.

This matter will be on the agenda for your consideration at the meeting of July 9.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
Victor D. Wolfe
F. B. Crandall
E. S. Hunter
J. J. Gix
A. E. Johnson
L. W. Rulien
C. H. Maison
H. S. Cox

VPJ:njc jko

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MAY 9 - 1968

26-1181

7186

May 8, 1968

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage Street, N. E.
Salem, Oregon

Dear Sir:

There are attached two copies of plans showing proposed illumination on the Highlands Interchange-Vista Ridge Tunnel Section of the Sunset Highway in Portland. The plan proposes lineal illumination from the westerly end of the tunnel to the existing illumination at the Zoo Interchange. Also proposed is revised lighting in the "OJ" tunnel in accordance with previous correspondence with your office and this office. The total cost of the work is $130,000.

The lineal illumination is planned for a 30-foot mounting height to fit with the existing illumination at the two ends of the section and with the general pattern in the city of Portland.

It is requested that this plan be approved as a participating item in the overall contract. The City of Portland is being asked to assume the power bills for the installation.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

Tom Edwards
Assistant State Highway Engineer

Attachments (2)

bc Forrest Cooper
R. L. Porter
Victor D. Wolfe
F. B. Crandall
L. H. Young

VPJ:ji ja

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SP*23811-734

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
April 12, 1968

26-1191
7196

To: Memo to the File

SUBJECT: Highlands Interchange-
Vista Tunnels Section
Sunset Highway
Prefix: 26-1983

NOTED
F. B. KLABOE

On Thursday, April 11, a meeting was held at 10:00 a.m. in the office of N. R. Drulard, City Engineer, in order to explain to Commissioner Bowes, Mr. Drulard and their staffs our proposed widening project for the subject section. Attending this meeting for the City were Commissioner Bowes and Carl Wendt, for a short time, Bill Lind, D. E. Bergstrom, Dick Speer and Fred Fowler, for the entire meeting. In attendance for the Highway Department were A. E. Johnson, A. V. Benedict, J. H. Versteeg, and D. E. Sturmer.

Prior to this meeting, we met with Don Bergstrom, Dick Speer and Fred Fowler to give them a preliminary look at our proposed stage construction and methods of handling traffic in order that they would be entirely familiar at the time of the main meeting.

Our proposed sequence of operations and stage construction was explained to the City personnel and they were assured that at all times during peak hours we would provide for two lanes of traffic in each direction. We indicated that we felt one lane in each direction could handle traffic at certain periods during off-peak hours and we would propose to permit the contractor to so handle traffic when necessary.

We indicated we were considering temporary lineal illumination, and both Mr. Drulard and Mr. Bergstrom indicated they believed the City would be interested in permanent lineal lighting and believed that the City would be agreeable to paying for the electrical energy if the State installed and maintained such lighting.

During the explanation of the stage construction, it was indicated to the City that it might be desirable to

NOTED
FORREST COOPER

consider doing certain phases of the project during the night. Commissioner Bowes, Mr. Drulard and Mr. Bergstrom all agreed that the City should furnish the State a letter setting forth what operations would be allowable during the night hours, and it was agreed that Mr. Bergstrom and Mr. Drulard would work towards getting such a letter to us prior to bidding time.

The question of the existing City sewer was discussed and it was pointed out that we have worked with the City Sewer Department and they have indicated that an inspection has been made of the sewer and that portions are showing damage from the existing fill and it is questionable whether or not it could stand the additional fill contemplated in the subject project. Mr. Drulard indicated he would submit a letter to us indicating it would be necessary and desirable to rebuild the sewer.

Mr. Bergstrom requested that realistic construction speed limits be used on the project and that we pay special attention to the end sections of the project in shifting traffic from one stage to another. He also indicated he believed that it might be possible to consider entire closure of the highway for a period of four to five hours, possibly during the night, if it was absolutely necessary.

The question of utilities on the project was brought up by the City and we indicated that the subject section was access controlled and at the present time the only utility on the section is the power lines on the south side of the road. Mr. Fowler felt that these should be underground, but it was pointed out that on the tunnel project we have already paid to move power lines and that need for power for lineal lighting was apparent. Mr. Bergstrom felt that if we are going to permit other utilities to occupy area within the right of way, possibly we should contact the utilities to determine if they would provide a common underground conduit for the various lines. It is my belief and recommendation that, if possible, we should exclude any further utilities from this section and should possibly consider the removal of the power lines also. Any contact with the City of Portland regarding utilities should be made with Mr. Jim Kirk.

Commissioner Bowes inquired as to duration of the proposed contract, and he was advised that in order to complete the project for the opening of the westbound tunnel, which has a tentative completion date of April 1970, it would be necessary to complete the subject project the latter part of 1969. He was advised that in order to do this, it would require an extremely tight construction schedule, but that the project should not take longer than the Summer of 1970.

cc Tom Edwards
F. B. Klaboe
F. D. Morgan
Ivan Merchant

A. E. Johnson
Metropolitan Engineer

AEJ:sh bcc Comm. Wm. A. Bowes

RECEIVED
APR 1 2 19
FORM E-30X—50M—7-60

FOR FILING
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[illegible]

SP*23811-734

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE
Portland, Oregon 97213

April 9, 1968

To:
Mr. G. E. Rohde
Chief Counsel
State Highway Building
Salem, Oregon 97310

SUBJECT: Highlands Interchange-
Vista Tunnels Section
Sunset Highway
Prefix: 26-1983

ATTENTION: Mr. Frank McKinney

Attached is a copy of a letter from West Slope Water District asking for a profile showing the depth of fill over their 12-inch main along Jefferson Road as of September 12, 1967.

Mr. Blackwell was in this office on March 28, 1968 asking that we furnish information as to the depths of fill over their pipe line on September 12. He stated that the State law requiring reimbursement to Utility Districts became effective on that date and that his directors were considering a claim for any pipe rendered inaccessible after that date. I told him I would find out if the information were available.

The monolithic sewer along Jefferson Road was completed in May of 1967 and filling started over the sewer the full length. The same fill also covered the West Slope pipe line. The fill increased in height during the summer but remained fairly constant lengthwise. Our people took cross-sections for estimate purposes at varying intervals. A profile was prepared from this information, but the nearest remeasure to September 12 was on October 1, 1967. Three prints of the profile are attached. I am informed that the fill over the pipe has been extended to Station 75+50. The fill is not apt to be extended further west under the present contract, but will probably be increased considerably in depth.

In accordance with your instructions, this information is being forwarded to you for review. Will you please reply to West Slope Water District.

A. E. Johnson
Metropolitan Engineer

By
ORIGINAL SIGNED BY A. V. [illegible]

A. V. Benedict
Assistant Metropolitan Engineer

RECEIVED
APR 10 1968
OFFICE OF
STATE HIGHWAY ENGINEER

AVB:sh
Enclosures
cc F. B. Klaboe   F. D. Morgan   D. E. Sturmer   Roy Heinz

RECEIVED
APR 2 1968

FOR FILE
26-1181

71-6

SP*23811-734

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
March 28, 1968

SUBJECT: Highlands Interchange-
Vista Tunnels Section
Sunset Highway
Prefix: 26-1983

To: Memo to the files

Mr. Blackwell, Superintendent for West Slope Water District, was in this morning requesting information as to the depths of fill over their pipe line along old Jefferson Road on September 12, 1967. He explained that the new law requiring reimbursement to water districts became effective on that date and that the District's board of directors was considering a claim for any pipe buried since that date.

I told him I would check with the field office, but I doubted if we would have any very definite information. Mr. Blackwell said he would write us a letter making a specific request for this information.

ORIGINAL SIGNED BY A. V. BENEDICT

A. V. Benedict
Assistant Metropolitan Engineer

AVB:sh

cc F. B. Klaboe
F. D. Morgan
Frank McKinney

RECEIVED
MAR 1 - 1968

FOR FILING

Const
R/W
Sunset

March 1, 1968

2047

Mr. Allison E. Dean
Allison E. Dean and Associates
Realtors
928 S. W. Stark Street
Portland, Oregon 97205

Dear Mr. Dean:

On November 27, 1967, I wrote you that we were restudying the proposed project between the Portland Zoo and the Vista Ridge Tunnel. While our study has not been completed, we believe that sufficient changes can be made in the design so that no additional right-of-way will be required on either side of the canyon in the vicinity of your property.

I must add one word of caution. We have not completed our work and therefore cannot give you positive assurances that these statements are entirely correct. However, if there is any change which would require the taking of additional property in the vicinity of your home, I will advise you.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: R. L. Porter
F. B. Klaboe
Victor D. Wolfe
F. D. Morgan

FBK:srb jes

Dec 2 - 67

Mr Forrest Cooper
State Highway

Dear Mr Cooper: I deeply appreciate your intention to study the north side of Canyon Road. I am positive it is easier, cheaper, saves the beauty of this vast artery to the western valley and protects the fine homes recently built on the south side.

Mr Walter McMonies, Dr Theodore Lehman and Dr Faust all join me in hoping you will find our contention is valid.

Thank you

Allison Henry Dean
928 S.W. Starks, Portland
5

Realtor; "better homes for 43 years".

DEC - 1967
OFFICE
STATE HIGHWAY

3-15

PHONE: 228-9216

ALLISON H. DEAN AND ASSOCIATES
Realtors

RESIDENTIAL PROPERTY SPECIALISTS SINCE 1923
MEMBER, NATIONAL ASS'N. REAL ESTATE BOARDS
MEMBER, NAT'L. ASS'N. HOME BUILDERS OF THE U.S.

928 S. W. STARK ST.
PORTLAND, OREGON 97205

Routing
Morgan
Decker
Scott
Litchfield
Olson

RECEIVED
NOV 1967
CONSTRUCTION
DIVISION
REFERRED TO

NOV 1 67

6295

Oct. 30, 1967

State Highway Department,
Salem, Oregon.

Attn. Mr. Forrest Cooper.

Dear Mr. Cooper:

On Thursday, Oct. 12, 1967, I had a call from Mr. St. Clair who said the Highway Department expected to move the south side of Canyon Road from 100 to 130 feet up the hill into Lot 16, Kirk's Addition, cutting down every tree and shrub for the full distance, but moving the pavement itself not very far - not beyond the limits of the 220 feet right of way now owned by the Department.

Please note:

This would make a greater curve than if the widening of pavement were on the north side.

There is no excuse for destroying forest trees for 100 to 130 feet beyond your present right of way.

Lot 16 has about 1-3/4 acres of beautiful forested canyon and slopes, 190 ft. frontage on Canyon Rd., 110 ft. on S. W. Patton Court, the only access. In July of this year I prepared house plans and in September arranged financing and excavated and let the concrete sub-contract. When I first had notice that any widening was contemplated I had about $6,000.00 committed to the improvement, and could not stop, even though I am now told the screen of great trees hiding the zoo and dulling the roar of Canyon Rd. traffic is in jeopardy.

The land value of this large forest site, so close to the heart of the big city is a minimum of $10,000.00.

As I told Mr. St. Clair, the half acre or more he wanted, was of no great value in itself. I said I would give the State a free deed to it if it were in the deed that no trees could be cut, but every tree was worth a great deal of money and I would resist all attempts to destroy them, thus destroying beauty, clean forest air, and the quietness. When this new home now being framed is for sale it will command a price of about $60,000.00, if the forest setting is preserved, but may be unsalable if the windows and decks look out to the zoo and the Canyon Rd. traffic has been moved closer.

RECEIVED
1967
OFFICE OF
STATE HIGHWAY ENGINEER

I told Mr. St. Clair that following the Oct. 12th cyclone that I had twice obtained $5,000.00 for one tree because of loss of a beautiful setting, and in several cases had proven several thousands of dollars loss because a few trees blown down had opened objectionable views.

Remember please Mr. Cooper that there is no excuse for coming into this property: 1st you already have 220 ft. right of way and have no reason for trying to get 100 to 130 more, and 2nd, the north side of Canyon Rd. is a much lower rock cliff, and much easier and cheaper to remove, and 3rd, such widening would straighten Canyon Rd. whereas the opposite work would accent the curve.

Mr. St. Clair said he was not an engineer, only a right of way man, but he understood there was slide danger on the north side. I am sure you know the terrain, and will agree that most of the north side work I recommend is in solid rock, not one iota of slide danger, and the part requiring support is only about 200 feet long. Surely your engineers can hold this section with steel piling or massive retaining walls which need not be over 25 feet high.

I am sure you know why the zoo had soil movement. The 100 acres or more is in a basin, all surface water from Fairview Blvd., The Highlands, and the west end of the City Park, drain into this area. Big rock formations on Canyon Rd. opposite Lot 18, Kirk's Addition, prevent water or mud from moving there, so the only drainage is through section east of the zoo over-pass. Of course there was trouble, but it has been controlled, and now the problem is recognized a widening on that side is vastly cheaper than buying and removing the high, high rock cliffs on the south side, destroying large investments, to say nothing of the destruction of the wooded beauty of famous Canyon Road.

Not only Dr. Theodore Lehman and I are concerned, the thousands of daily users of this great highway are concerned. Even the taxpayers are concerned because work done on the north side will be a fraction of the cost of cutting into high cliffs on the south side, and buying a brand new costly home just completed by Dr. Lehman which will be made unsalable by such work.

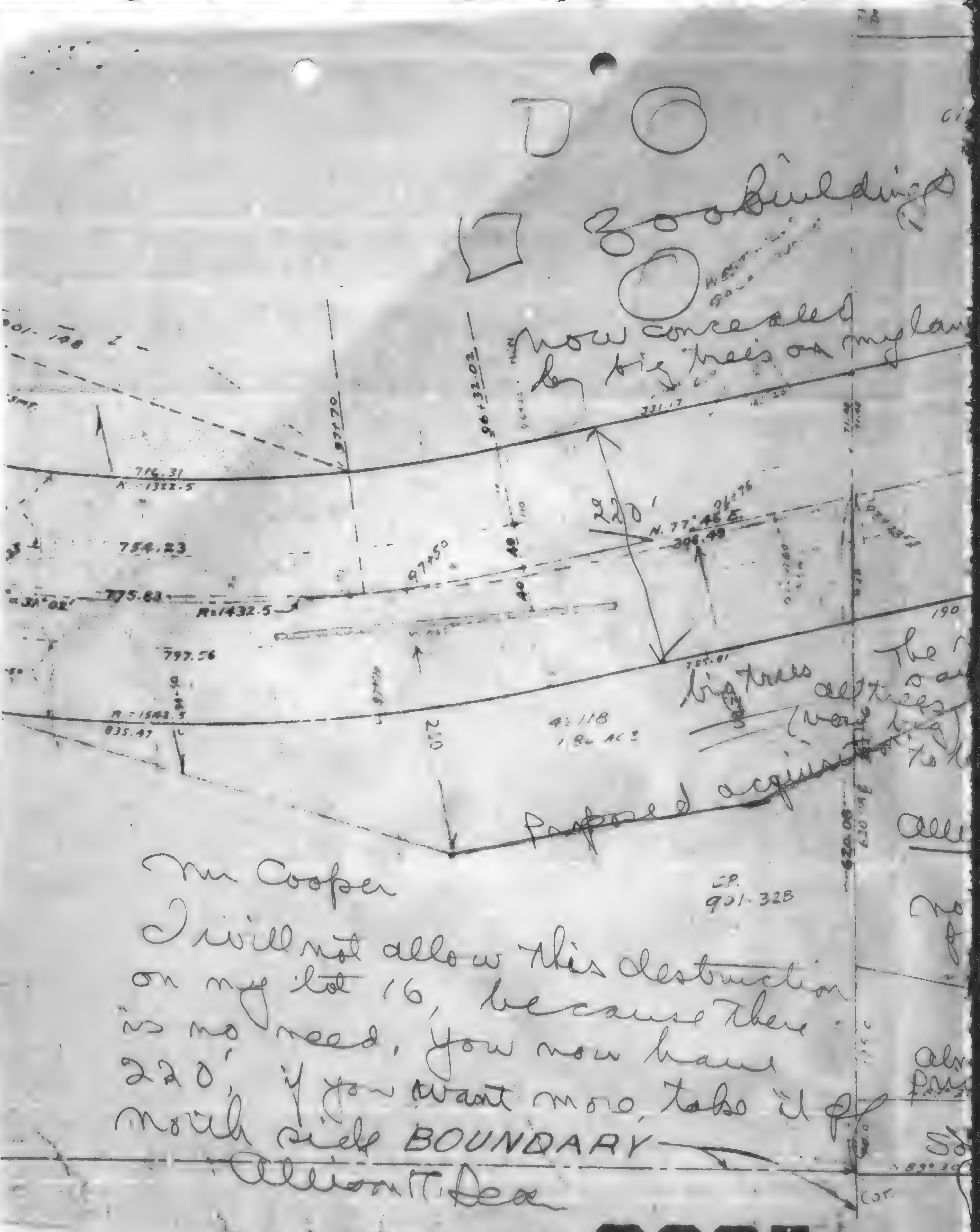
I enclose maps showing the area. Please investigate.

Sincerely,

Allison H. Dean

Allison H. Dean

AHD:dj
Encl.



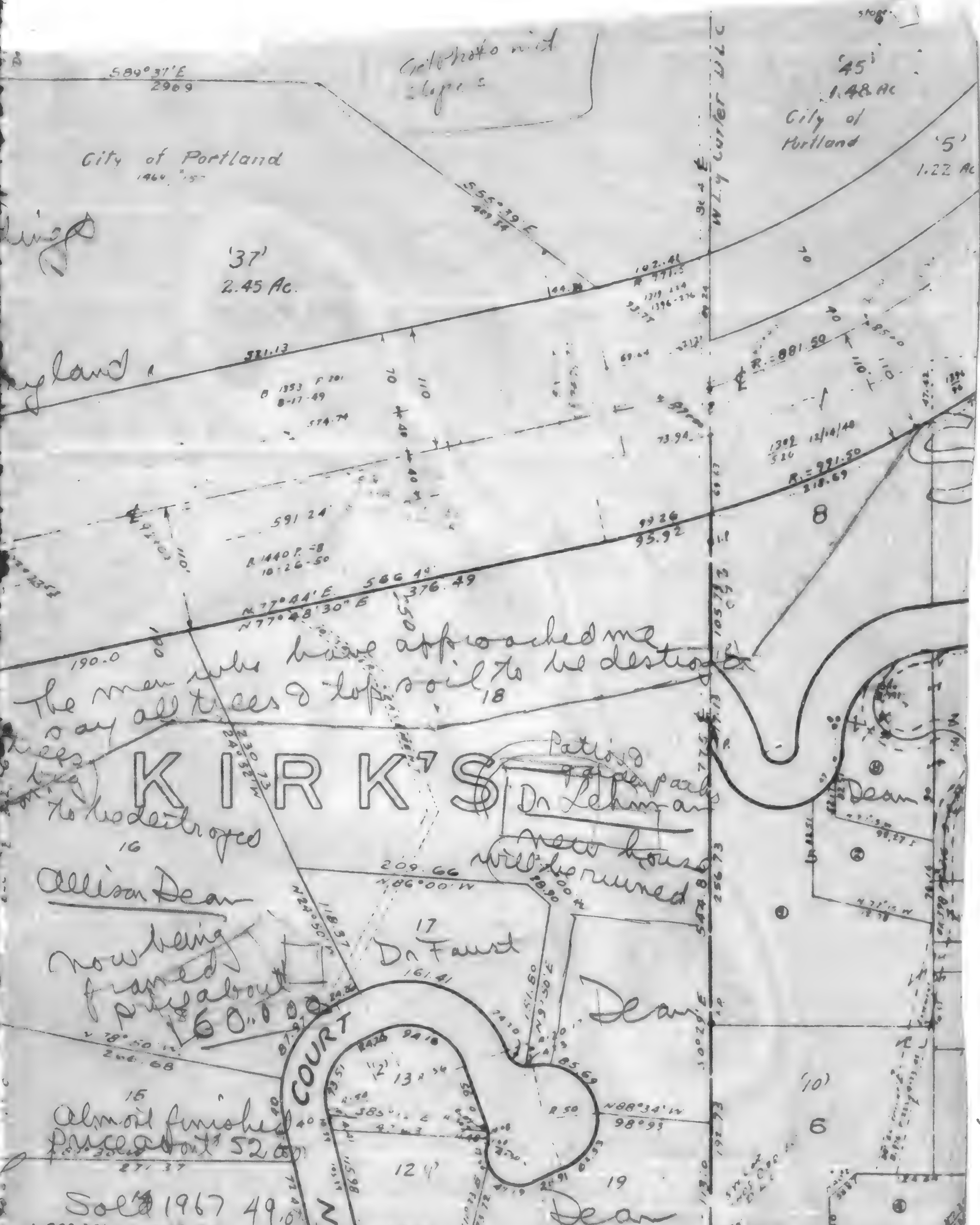
200 buildings
now concealed by big trees on my land
220'
N. 77°46' E.
308.49
97+70
96+32.02
97+50
776.31
R. 1322.5
754.23
775.83
R=1432.5
797.56
R=1562.5
835.47
331.17
205.81
big trees
all trees
(very big)
190
42-118
1.84 AC ±
210
620.08
C.P.
901-328
Proposed acquisition
Cor.

Mr Cooper

I will not allow this destruction on my lot 16, because there is no need, you now have 220', if you want more, take it off North side BOUNDARY

Allison T. Dea

S.W. ¼ SEC. 5 1S. 1E. **3225**



City of Portland
'37'
2.45 Ac.
'45'
1.48 Ac
City of Portland
'5'
1.22 Ac
S89°37'E
S55°29'E
N77°44'E
N77°48'30"E
376.49
190.0
R.=881.50
R.=991.50
8
18
16
17
15
12
13
19
'10'
6
KIRK'S
ADD
COURT
N86°00'W
209.66
161.41
N88°34'W
98.93
N89°30'W

The men who have approached me say all trees & top soil to be destroyed

trees to be destroyed

Allison Dean

now being framed price about 60,000

~~Patio & garden parks~~

~~Dr Lehman~~

~~new house~~ will be ruined

Dr Faust

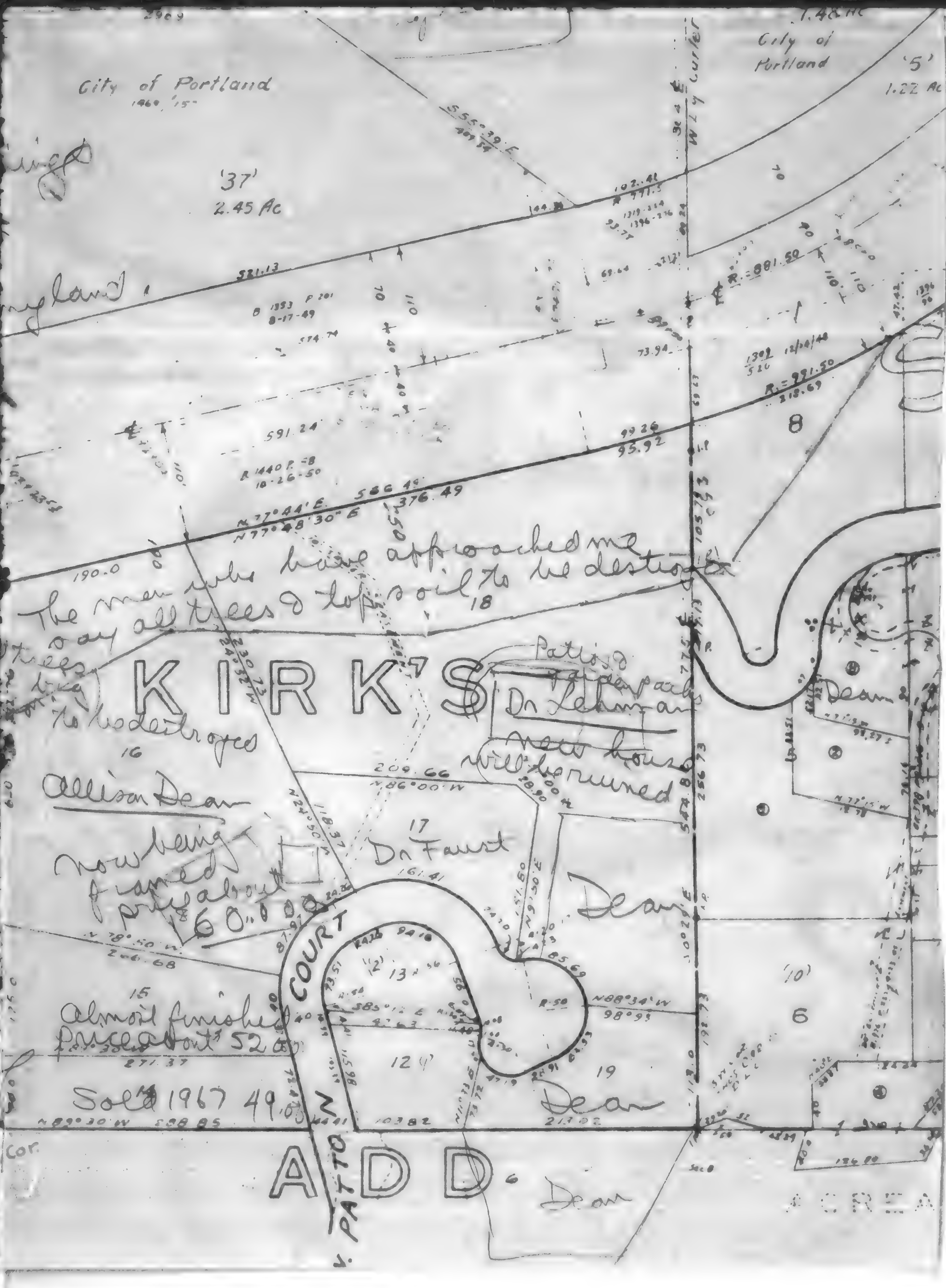
Dean

Almost finished Price about 52,000

Sold 1967 49,000

Dean

Dean


City of Portland
'37'
2.45 Ac
City of Portland
'5'
1.22 Ac
1.48 Ac
W'ly Curter
8
18
16
17
13
12
15
14
19
'10'
6
KIRK'S
ADD
COURT
N. PATTON
ACREA
Cor.
R.=881.50
R.=991.50
N 77°44' E.
N 77°48'30" E
586.49
376.49
591.24
521.13
190.0
209.66
N 86°00' W
161.41
206.68
N 78°50' W
N 88°34' W
98.93
85.69
271.37
N 89°30' W
588.85
103.82
213.02
B 1353 P 201
8-17-49
B 1440 P. 58
10-26-50

The men who have approached me say all trees & top soil to be destroyed

trees [illegible] to be destroyed

Allison Dean

now being framed price about $60,000

Patio & garden paths

Dr Lehman

new house will be ruined

Dr Faust

Dean

Almost finished price about $52,000

Sold 1967 49,000

Dean

Dean

RECEIVED
MAR 7 [illegible]

FORM [illegible]

SP*23811-734

FOR FILE
26-1181

7186

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
February 29, 1968

SUBJECT: Highlands Interchange-
Vista Tunnels Section
Sunset Highway
Prefix: 26-1983

To: Memo to the File

On Wednesday, February 28, A. E. Johnson, Dale Sturmer and the writer met with D. J. Barbee in Salem to go over design policy to be applied in relocation of the Highlands Interchange-Vista Tunnels Section of the Sunset Highway. We are under instructions from Mr. Cooper to produce a project that will not cut into the north, or Zoo, side of the Canyon. We have been told that substandard alignment and shoulders would be accepted. We are using maximum 6.2 percent grades uphill and 6.5 percent downhill resulting in fills over the present pavement of 26 feet maximum.

Alternates with both regular and broken alignment, four-foot and eight-foot shoulders at the tight spots, and walls set back 18 inches from the curbline were taken to Mr. Klaboe. After some discussion, Mr. Cooper was called in.

Mr. Cooper rejected the broken alignment, accepted 8-foot shoulders in wall areas on the south side and four-foot shoulders for short distances on the north side to skirt around local tight spots. No excavation is to be planned on the north side of the Canyon. Berms will be dropped where necessary. Stepped curbs may also be used.

NOTED
F. B. KLABOE

ORIGINAL SIGNED BY [illegible]

A. V. Benedict
Assistant Metropolitan Engineer

cc F. B. Klaboe
D. J. Barbee
Dale Sturmer

NOTED
FORREST COOPER

REFERRED TO
Cooper · Porter
BY ASST. STATE HWY. ENGR.

RECEIVED
[illegible]
OFFICE OF
[illegible]

RECEIVED
MAY 24 1967
FOR FILING

26-1181

7186

Salem, Oregon 97310
May 24, 1967

Highland Zoo-
Sunset Tunnel Section

Mr. D. J. Barbee
Assistant Construction Engineer
BUILDING

Please work up a project for the construction of the six-lane section between the Zoo Interchange and the west portal of the tunnel for letting as soon as practical. Included in this contract should be the paving and lining of the eastbound lanes of the tunnel.

In other words, we want to work up a project in the approximate amount of $2 million to do everything necessary to make the facility work in an adequate fashion for the interim period between now and when the second tunnel is constructed.

F. B. Klaboe
Assistant State Highway Engineer

FBK:srb

26-1181 Highlands Int.-Vista Ridge Tunnel 1969
Sec., Sunset Hwy. in Portland.
#7186 (REPORTS ON CMSI-ZCO LANDSLIDE)

0-406

WILLIAM L. SHANNON, P. E.
STANLEY D. WILSON, P. E.
EARL A. SIBLEY, P. E.
WALTER L. WRIGHT, P. E.
RUDY J. DIETRICH, P. E.

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE - PORTLAND - BURLINGAME

1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 • (503) 223-6147

January 19, 1970

Final Rpt
Mr. Klaboe

Oregon State Highway Department
State Highway Building
Salem, Oregon 97310

Attention: Mr. Fred B. Klaboe
Assistant State Highway Engineer

Re: Drainage Blanket, Buttress,
Zoo Slide, Portland

Gentlemen:

As we have discussed with members of your staff over the telephone recently, we believe that the two stage drainage blanket for the buttress, as presently under consideration, can be replaced with a 1-stage drainage blanket. The drainage blanket would have a gradation satisfying the requirements outlined in the attached Figure.

Other primary requirements, to insure satisfactory performance of the blanket, are as follows:

(1) The drainage blanket should consist of a well-graded naturally occurring uncrushed hard and durable sand and gravel material. It shall be well-washed to result in not more than 1.5 percent passing the No. 200 sieve (wet sieve analysis).

(2) On the backside of the buttress we recommend that the minimum dimensions of the drainage blanket be increased from 4 feet to 5 feet, while at the base of the buttress, the thickness should remain 2 feet, as shown in Figs. 26 and 27 of our Final Report, dated August 4, 1969.

(3) The material should be watered and mixed in a pug-mill or concrete mixing truck prior to delivery on the job and should not be permitted to dry out and segregate prior to placement in the buttress. Extreme care should be exercised during placement to prevent contamination or segration of the filter material.

(4) The quarry-run rock placed next to the filter should consist of the smaller sized material consisting primarily of clean "quarry spoil". The maximum size of the quarry run material placed in the buttress should not exceed 14-inches.

NOTED
F. B. KLABO

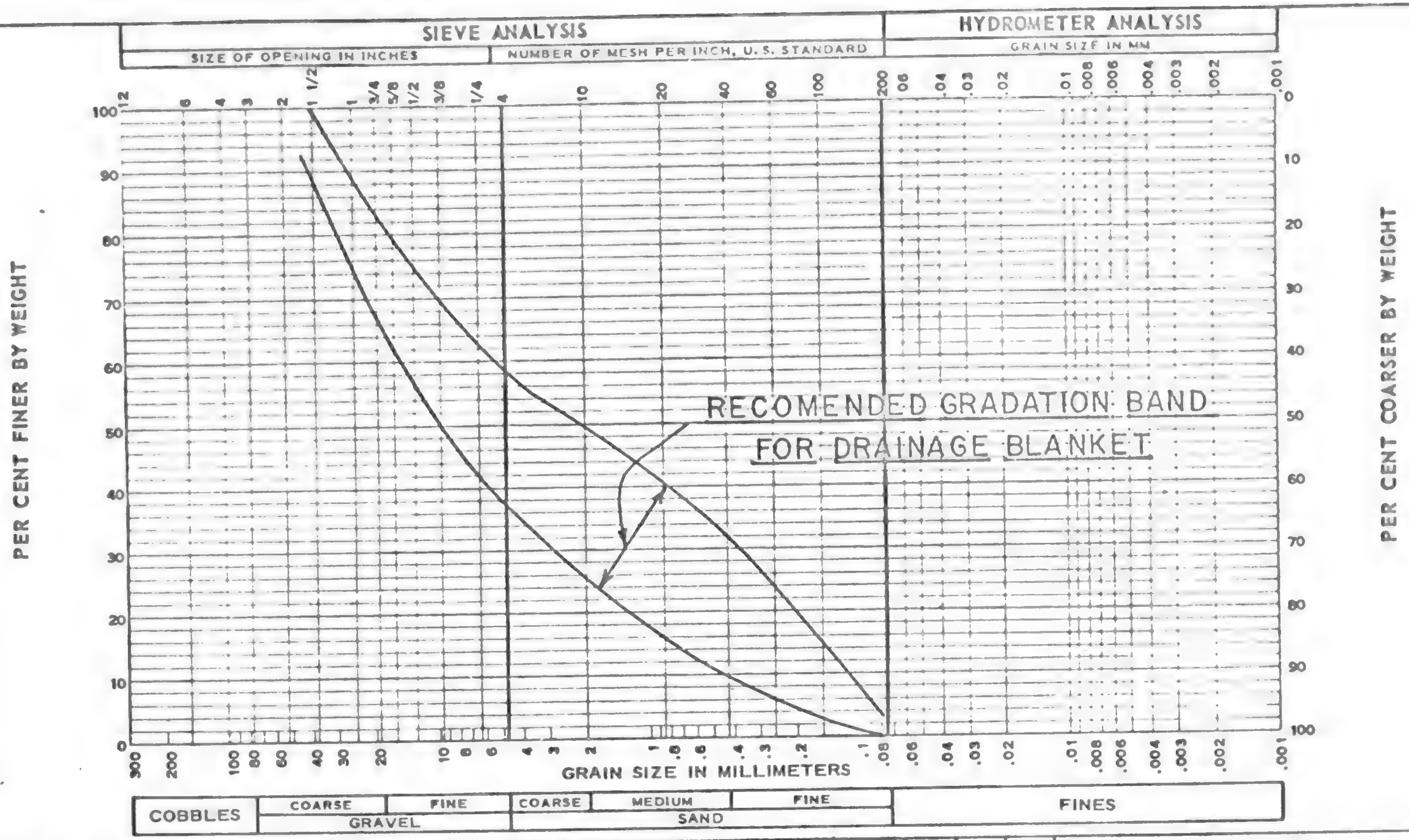
RECEIVED
JAN 21 1970
OFFICE OF
STATE HIGHWAY ENGINEER

Very truly yours,

SHANNON & WILSON, INC.

by L. Radley Squier
L. Radley Squier, P.E.

LRS:WLW:gg
Enclosure: Gradation Band
for Drainage Blanket



SAMPLE NO.	DEPTH -FT.	U.S.C.	CLASSIFICATION	NAT. W.C. %	LL	PL	PI

GRAIN SIZE CLASSIFICATION

GRADATION BAND FOR
DRAINAGE BLANKET IN
BUTTRESS

JAN. 1970 **SHANNON & WILSON** 0-406
SOIL MECHANICS & FOUNDATION ENGINEERS

FIG.

SHANNON & WILSON, INC.

SOIL MECHANICS AND FOUNDATION ENGINEERS

SEATTLE • PORTLAND • BURLINGAME

REPORT TO
OREGON STATE HIGHWAY DEPARTMENT
SALEM, OREGON
AND
BUREAU OF PARKS
PORTLAND, OREGON

FINAL REPORT
OMSI-ZOO LANDSLIDE INVESTIGATION
PORTLAND, OREGON

AUGUST 4, 1969

Shannon and Wilson, Inc.
Soil Mechanics and Foundation Engineers
1632 S. W. Morrison Street
Portland, Oregon 97205

TABLE OF CONTENTS

		Page
A.	INTRODUCTION	1
B.	BACKGROUND INFORMATION	1
C.	PREVIOUS STUDIES	4
D.	SUMMARY OF THE PERFORMANCE OF THE LANDSLIDE SINCE REMEDIAL MEASURES OF 1959	5
E.	FIELD EXPLORATIONS	8
F.	LABORATORY TESTS	13
G.	REGIONAL GEOLOGY	16
H.	DISCUSSION OF SUBSURFACE CONDITIONS	17
I.	DISCUSSION OF 1894 SLIDE	22
J.	DISCUSSION OF REMEDIAL MEASURES	23
K.	DESIGN OF THE BUTTRESS	
	Stability Analyses	25
	Design Assumptions	27
	Buttress Configuration and Location	28
	Buttress Construction	29
	Drainage System	31
L.	RECOMMENDED INSTRUMENTATION	31
M.	ADDITIONAL RECOMMENDED REMEDIAL WORK	32
N.	COMMENTS ON POSSIBLE REMEDIAL WORK BELOW OMSI	33
O.	LIMITATIONS	33
P.	ACKNOWLEDGMENTS	34

TABLE OF CONTENTS Continued

LIST OF TABLES

TABLE		Page
I.	Summary of the Changes in Horizontal Distance (Δ H) Between Selected Reference Hubs (1961-1969)	6
II.	Summary of the Changes in Elevation of Reference Hubs M, N and L	7
III.	Summary of Test Data	27
IV.	Summary of Piezometric Water Level Readings	36

LIST OF FIGURES

FIGURE

1. Vicinity Map
2. Photograph of Slide Area
3. Contours of Cut and Fill, Construction 1956-1959
4. Location of Selected Reference Hubs
5. Hub E Vectors of Movement
6. Relationship of Slide Movement and Rainfall Intensity
7. Plan of Explorations
8. Log of Boring, Boring No. B-1
9. Log of Boring, Boring No. B-2
10. Log of Boring, Boring No. B-3
11. Log of Boring, Boring No. B-4
12. Log of Boring, Boring No. B-5
13. Log of Boring, Boring No. B-6 and B-6A
14. Log of Boring, Boring No. B-7
15. Log of Boring, Boring No. B-8 and B-8A
16. Log of Boring, Boring No. B-9
17. Triaxial Tests: Boring B-7, Sample S-4, S-5 (Depth 17.5 - 25.0 ft)
18. Laboratory Torsion Shear Tests: Boring B-8A, Sample S-7 (Depth 40.0 - 42.5 ft)

TABLE OF CONTENTS Continued

LIST OF FIGURES Continued

FIGURE

19. Laboratory Torsion Shear Tests: Boring B-6A, Sample S-3 (Depth 30.0 - 32.5 ft)
20. Plasticity Chart
21. Geologic Cross Section A-A'
22. Geologic Cross Section B-B'
23. Geologic Cross Section C-C'
24. Relationship Between ϕ' Values in Overburden And Failure Zone (F.S.=1)
25. Ground Surface Profile and Seismic Data Along Toe of Existing Slope
26. Buttress Section M-M'
27. Buttress Section N-N'
28. Plan of Buttress Location
29. Sketch of Buttress Construction
30. Drainage Blanket Materials
31. Sewer Network
32. Cross Section 1-1: Possible Remedial Work Below OMSI

APPENDICES

APPENDIX

A. Geophysical Refraction Survey
B. Calculations for Design of Buttress
C. Report of Clay Mineral Analysis: Sample B-6A, S-3

0-406

William L. Shannon, P. E.
Stanley D. Wilson, P. E.
Earl A. Sibley, P. E.
Walter L. Wright, P. E.
Rudy J. Dietrich, P. E.

SHANNON & WILSON, INC.
Soil Mechanics and Foundation Engineers
SEATTLE · PORTLAND · BURLINGAME

1632 S. W. MORRISON STREET PORTLAND, OREGON 97205 • (503) 223-6147

January 19, 1970

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State Highway Building
Salem, Oregon 97310

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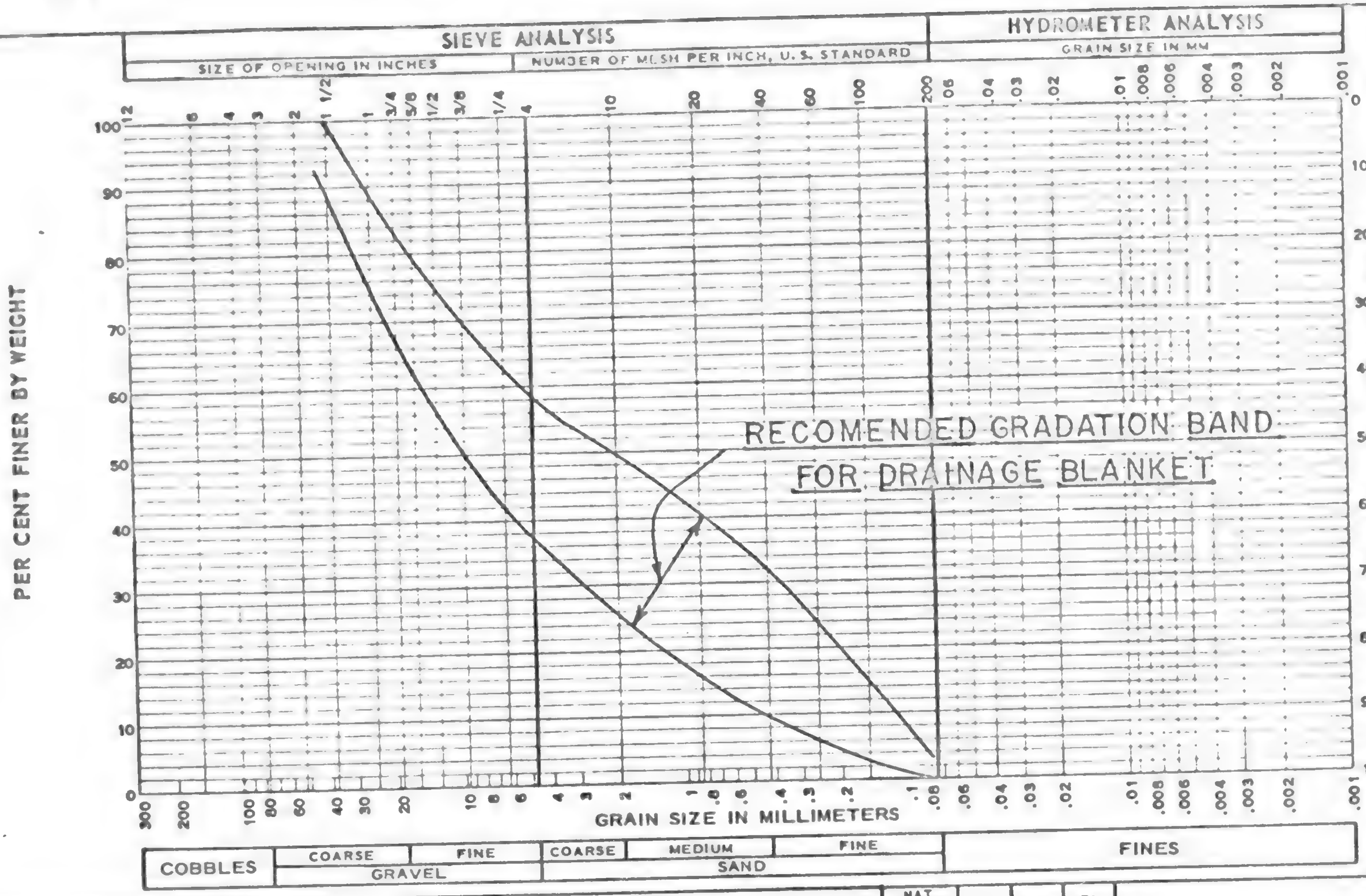
Very truly yours,

SHANNON & WILSON, INC.

by L. Radley Squier
L. Radley Squier, P.E.

LRS:WLW:gg
Enclosure: Gradation Band
for Drainage Blanket



SAMPLE NO.	DEPTH -FT.	U.S.C.	CLASSIFICATION	NAT. W.C. %	LL	PL	PI

GRAIN SIZE CLASSIFICATION
GRADATION BAND FOR
DRAINAGE BLANKET IN
BUTTRESS

JAN. 1970 **SHANNON & WILSON** 0-406
SOIL MECHANICS & FOUNDATION ENGINEERS

FIG.

FINAL REPORT
OMSI-ZOO LANDSLIDE INVESTIGATION
PORTLAND, OREGON

A. INTRODUCTION

This report presents the results of our studies of the landslide at the OMSI-Zoo Complex in Portland, Oregon. Discussed herein are the subsurface explorations made on the site, the laboratory tests conducted and, on the basis of these studies, the subsurface conditions, which influence and, to a large extent, control the degree of stability in the hillside. In addition, the report includes recommendations for remedial work and other work leading to the stabilization of the landslide.

As will be discussed more fully in a section entitled "Discussion of Remedial Measures", our studies indicate that the work presently proposed to be accomplished in S. W. Canyon Road under existing State contracts will result only in a marginal increase in the factor of safety of the existing slide. As a result of this, an additional scheme for stabilization of the active slide, consisting primarily of a toe buttress, is recommended herein. In addition, recommendations are presented for additional remedial work of a more supplemental nature.

B. BACKGROUND INFORMATION

The Vicinity Map in Fig. 1 shows the location of the landslide under study. The figure shows that the toe of the slide encroaches onto S. W. Canyon Road and that the slide extends northward into the area occupied by the Oregon Museum of Science and Industry (OMSI) and the Portland Zoological

Gardens (Zoo).

The landslide area is located in the central part of the Tualatin Mountains approximately 1.5 miles southwest of downtown Portland. The Tualatin Mountains form a northwest trending ridge approximately 4 miles wide that rises to an elevation of about 1,000 feet (sea level datum). The ridge has been deeply dissected by streams flowing northeasterly toward the Willamette River - Columbia River lowland and southwesterly to the Tualatin valley. The slide area is located on the north flank of one of the northeasterly trending canyons that contains S. W. Canyon Road (SSR 26). It is part of an extensive area of irregular topography that extends along the north side of Canyon Road (elevation 550-700) and northerly to the crest of the mountains near S. W. Fairview Avenue (elevation 800). The topography of this area, which includes the hummocky topography of the Pitch and Putt Golf Course, is in sharp contrast with the surrounding landforms. It is generally believed that the landforms in this area are a result of major, ancient landslide movements. The approximate outline of this ancient landslide area, as derived from a study of aerial photographs and ground contours, is shown on Fig. 1.

In the hillside, about one mile to the northeast, a landslide developed in 1894 during the construction of City Park Reservoirs Nos. 3 and 4. The slide was thoroughly investigated with borings and shafts down to bedrock and later documented in the Transactions of the American Society of Civil Engineers, 1904[1.] and 1918[2.]. The marked similarities between this slide and the OMSI-Zoo slide are discussed in a subsequent section.

Fig. 2 presents an aerial photograph of the active

[1.] Clarke, D.D., "A Phenomenol Landslide", Trans. ASCE, Vol.53, Proc. Paper No. 984, 1904, pp. 322-397.

[2.] Clarke, D.D., "A Phenomenol Landslide Supplement", Trans. ASCE, Vol. 82, Proc. Paper No. 1415, 1918, pp. 767-796.

landslide. Cracks and scarps in the ground caused by recent movements are shown in this figure as well as those that occurred during the initial stages of movement, but which at the present time, show no evidence of recent movement. As shown in the figure, the active landslide mass extends northward from S. W. Canyon Road (SSR 26), a distance of about 650 feet. The length of the active slide along S. W. Canyon Road is in the order of 1400 feet. Study of the photograph reveals that the southeast corner of the OMSI building is within the active slide mass and that eastward of OMSI some of the facilities of the Zoo are affected by the landslide. The relatively dormant portion of the initial landslide mass is shown, in part, to the north and west of the highway (SSR 26) underpass. According to the available correspondence (State Highway Inter-Department letter June 4, 1964) intermittent slide damage extended 1600 feet west of the underpass during the time of the initial movements in 1958 and 1959.

With respect to the initial slide movements they occurred during a time of construction in the hillside. In part, the construction included the regrading of the hillside for the Zoo facilities. Fig. 3 shows the contour map of the cuts (minus numbers) and fills (plus numbers) made as part of the regrading program that was accomplished primarily in 1956. The contour map reveals that on the east and near the head of the existing slide 10 to 15 feet of fill was placed over a relatively widespread area.

In addition to the regrading of the hillside for the Zoo facilities, work was also begun in about 1957 to widen S. W. Canyon Road and to provide access roads to the Zoo and OMSI facilities. It is our understanding that to widen Canyon Road the toe of the natural slope along the north side of the road was cut back approximately 80 feet. In November, 1957, when about 1/2 of the planned excavation depth was completed some cracks were observed at the top of the slope. At this time the planned slope of 1.5 (horizontal):1 (vertical) was revised to 2.0 (horizontal):1 (vertical) with the provision of two 13-foot wide berms. The berms resulted in an average slope of 2.5 (horizontal):1 (vertical). Fig. 3 shows the extent of the excavations and the fills made as part of this widening project. In addition to widening S. W. Canyon Road access roads were cut in the hillside south of the OMSI structure. The locations of these access roads are shown by dotted lines in Fig. 3. As shown by this figure, cuts for these access roads are in the order of 20 to 25 feet.

The available information indicates that cracks first appeared in the vicinity of the upper limits of the present slide on August 5, 1958, approximately one month after the completion of grading of the highway slopes. At the same time, several residences located a few hundred feet to the west of the Zoo site reportedly experienced structural damage as a result of ground movements. These movements occurred during a relatively dry summer. However, it wasn't until January 3, 1959, after several months of high percipitation, that large scale movements were detected towards the highway cut.

C. PREVIOUS STUDIES

As a result of the massive movements in the hillside in early 1959, a subsurface investigation was undertaken by others for the purpose of (1) determining the mechanics and causes of sliding and (2) recommending remedial measures for the stabilization of the slide.

The investigation that was undertaken at this time included a series of 12 borings plus the installation of about 7 Wilson Slope Indicators. No piezometers were installed. As a result of the data obtained from this investigation and the various office studies that were completed, remedial measures for stabilization were recommended which included principally the construction of a drainage gallery or curtain upslope of the major slide scarp. The purpose of this drainage gallery was to intercept groundwater moving downslope into the slide area. Fig. 2 shows the location of this drainage gallery.

The drainage gallery consists of a series of vertical shafts (diameter 30-inches) spaced on about 8 foot centers and drilled to depths in the order of 80 to 100 feet. The vertical shafts are interconnected at the bottom by a perforated metal drain. Groundwater intercepted by the gallery flows to two manholes where the water is collected and then pumped into the existing sewer system. The shafts, as well as the interconnecting drainage tunnel, are backfilled with suitable filter material. It is our understanding that the pumps are, at present, operated automatically.

It was further recommended in the report pertaining to this investigation that catch basins be constructed about 100 feet above the major slide scarp and that the water collected in these catch basins be pumped to the surface and conducted away from the slide. This recommendation essentially embodied the abandonment of the sewer system within the slide area until stabilization was accomplished. It is our understanding that this recommendation was not acted upon: the significance of this will be discussed in the section "Additional Recommended Remedial Work".

D. SUMMARY OF THE PERFORMANCE OF THE LANDSLIDE SINCE REMEDIAL MEASURES OF 1959

In order to monitor the behavior of the slide after the recommended remedial work was completed, lines of hubs were established in the upper part of the slide. Some of the hubs were located just upslope of the major slide scarp whereas the remainder were located within the unstable area. Fig. 4 shows the locations of the hubs that were used in this present study.

Hubs A, B and D (Line 5) were established upslope of the slide scarp: points C and E were located within the slide.

With this positioning and on the assumption that hubs A, B and D are essentially stable reference points, the change in distance between hubs B-C and D-E yield the magnitude of the downslope movement of the slide mass. In a similar manner, the change in distance between hubs B-C, lines 1 and 2, provide the magnitude of downslope movement of the slide mass closer to OMSI. Table I summarizes the changes in distance that have occurred for these hubs since their installation in February, 1961. The magnitudes of the changes are in most instances minimum values because some of the hubs were destroyed and then replaced. In most instances the destruction of the hubs has resulted in a loss of data over a period of from 2 to 3 years.

TABLE I: SUMMARY OF THE CHANGES IN HORIZONTAL DISTANCE (Δ H) BETWEEN SELECTED REFERENCE HUBS (1961 to 1969)

Hubs	Line	H, Feet
B-C	1	1.6 +
B-C	2	1.5 +
A-B	5	0.05 ±
B-C	5	1.3
D-E	5	0.6

Table I shows that downslope movement of the slide mass has continued over the years since the remedial work was accomplished. Considering the gaps in the measurements the magnitude of horizontal movement that has occurred over the last eight years (1961 - 1969) must be well in excess of 1.5 feet. Study of the change in distance between hubs A-B (lines 1, 2 and 5), which are located upslope of the major slide scarp, shows that only small creep-like movements are occurring upslope of the unstable area.

The change in elevation of some of the hubs shown in Fig. 4 have also been determined over the years. The change in horizontal distance between selected hubs combined with the change in elevation data permit the resultant direction of

the ground movement in certain areas of the slide mass to be determined. For example, at hub C, line 5, the change in elevation of the hub in the time interval 1961-1969 is about 1.6 feet; hence, the resultant of the ground movement in a direction B-C makes an angle of about 50 degrees with a horizontal. At hub E in the direction D-E the resultant of the ground movement is somewhat steeper as shown in Fig. 5. In the period, January 18 to December 17, 1968 the resultant of the ground movement is at an angle of about 60 degrees with the horizontal; however, the resultant steepened considerably this past winter (1968-1969) becoming nearly vertical. In our opinion, the nearly vertical movement of hub E reflects the development of a graben-type wedge near the head of the slide. The approximate limits of this graben in the vicinity of hub E are shown in the aerial photograph, Fig. 2.

A study of the change in elevation of reference hubs M, N and L (Fig. 4) reveals that these hubs have settled considerably over the years. Table II shows the total magnitude of settlement that has occurred at these locations since 1961.

TABLE II: SUMMARY IN THE CHANGES IN ELEVATION OF REFERENCE HUBS M, N AND L.

Reference Point	Settlement, feet
M	1.0
N	0.8
L	0.4

The pattern of the settlements indicates that the ground has settled in the area of these hubs appreciably more on the north than on the south, suggesting that the effects of the graben shown in Fig. 2 extend both westward and southward into the area of the Commissary building.

The change in elevation of reference hubs J and K is negligible over the years since 1961 indicating that nearly horizontal movement of the slide mass is occurring through the

area of these hubs.

Fig. 6 shows that a relationship exists between the slide movements and the amount and intensity of precipitation. In the upper portion of the figure, the change in distance between selected reference hubs, i.e., horizontal movement, is presented with respect to time, i.e., from 1962 to present. Below this plot the amount and intensity of the precipitation is shown, the latter in inches per month. Study of the plots reveals that the rate of movement of the slide increases in the wet season and diminishes in the dry season. During the wet seasons 1965-1966, 1966-1967 and 1967-1968 the total amount and intensity of the precipitation was comparatively low and movements were negligible. However, in the past wet season, 1968-1969, the intensity of the precipitation over two successive months, December and January, was significantly greater than in any previous years and a disproportionate increase in the rate of movement occurred as shown by the plot.

As a result of the accelerated movements of the slide mass this past wet season (1968-1969) and, also, because of the work proposed to be accomplished by the State at the toe of the slope, a program of additional study was authorized. The primary purposes of this additional study, reported herein, were (1) to evaluate the factors influencing or controlling the stability of the hillside; (2) to evaluate the degree of effectiveness of the work presently planned by the State at the toe of the slope with respect to increasing the factor of safety of the hillside in the slide area; (3) recommend additional remedial work as required to provide a sufficient measure of stability to the hillside.

E. FIELD EXPLORATIONS

In order to observe the subsurface conditions and the materials in the slide area and in the vicinity of the slide, nine borings were made as part of this study. The borings were designated B-1 through B-9 and they were located as shown on the Plan in Fig. 7. The figure shows that five borings were located in the slide area whereas the remaining ones were located upslope and outside of the slide area. The depths of the borings varied from a minimum of 7-1/2 feet in boring B-9 to as much as 102 feet in boring B-2. In all instances, where applicable, the borings extended well below the known zone or zones of failure and, in all cases, terminated at refusal conditions in bedrock.

At boring locations B-6 and B-8 some additional selective drilling was done in order to obtain undisturbed samples of material particularly significant to the study. The additional drilling was designated B-6A and B-8A.

All the borings were made using a Mobile hollow-stem auger provided by Soil Sampling Service of Tacoma, Washington. A geologist-inspector from our staff located the borings, observed the drilling operations and logged the samples of soil as they were obtained in the sampler.

In the borings sampling was generally done at 5-foot intervals of depth. For the most part, standard split-spoon samples were taken; however, at selected intervals of depth undisturbed samples were also obtained. The standard split-spoon samples were obtained by driving a sampler into the soil a distance of 18-inches using a 140-lb. hammer dropped 30-inches. The number of blows required to drive the sampler the last 12-inches or 1-foot is known as the standard penetration resistance or N-value. The N-values or blow counts provide a measure of the degree of compactness of granular soils such as sands and gravels and the degree of softness (or consistency) of cohesive soils such as clay. The samples that were obtained by the split-spoon sampler were classified in the field by our inspector and placed in air-tight glass jars for return to our Portland laboratory.

The undisturbed samples of soil were obtained at various intervals in the borings by pushing 3-inch O.D. steel Shelby tubes into the soil using the hydraulic system of the drill rig. The soil exposed at both ends of the tubes was classified and then the ends of the tubes were waxed in order to prevent a loss of moisture. The Shelby tube samples are relatively undisturbed and, hence, suitable for more refined tests, such as triaxial compression tests and torsional vane shear tests. These two types of tests can be used to determine the in-situ shear strength properties of the subsurface materials.

Piezometers. Piezometers were installed at each boring location in order to observe the piezometric pressures in the hillside, particularly in the area of active slippage. In general, one deep piezometer and one shallow piezometer was installed at each boring location.

The piezometer consisted of a 1/2-inch O.D. plastic riser pipe that was connected at the bottom to a Norton porous stone. The riser pipe with the porous stone attached at the tip was lowered down to the bottom of the boring at the completion of the hole. The annular space was then backfilled with clean pea gravel up to a specified level that was selected from the study of the boring logs. Then a seal of bentonite was placed usually varying in thickness from 2 to 3 feet. Above the seal to the ground surface, natural soil was used to backfill the hole. Any water in the ground enters the plastic tubing through the porous stone. The level of the water in the tubing is determined by inserting an electrical probe into the tubing. When contact with the water level is made an electrical circuit is completed which is reflected at the ground surface by the lighting of a small flashlight bulb.

At the boring locations in the slide area one piezometer was installed below the known zone of failure whereas the other one was installed above the failure zone. The seals for these piezometers were placed such that it would be possible to record or to measure the piezometric pressures that existed both above and below the failure zone.

The logs of the borings are shown in Figs. 8 through 16. Each log presents a general description of the types of soils and/or rocks encountered. The depths, just to the right of the descriptions, indicate where the types of soils changed in composition and/or characteristics. Further to the right the number, depth and types of samples that were obtained during the drilling operations are shown. In an adjacent column the piezometer locations are indicated. In this column the location of the piezometer tip, the extent of the clean pea gravel backfill and the location of the bentonite seal are indicated. Also shown in this column alongside the riser pipe is the piezometric water level for the particular piezometer. The dates of the observations were May, 1969. At the extreme right in the boring logs, the standard penetration resistances (N-values) that were obtained in the taking of the split-spoon samples are plotted. At the top of each boring log the elevation of the ground surface at the location of the boring is tabulated.

Seismic Refraction Survey. In order to supplement the information that was obtained in the borings and to provide information between borings, three seismic refraction survey lines were run at the locations shown in Fig. 7. In essence, two nearly parallel lines (S-1 and S-2) were run across the landslide area in a north-south direction through the boring locations and the third seismic line (S-3) was run along S. W. Canyon Road at the toe of the slope. The lengths of all lines were in the order of 1250 feet. To obtain the necessary detail at depth seismic detectors were closely spaced with a maximum spacing of 25 feet. In addition, to provide more detail as to subsurface conditions, an uphole velocity survey was run in a 75 foot boring located near boring B-8. For the refraction surveys the necessary energy was induced into the ground using small quantities of dynamite charges and falling weights.

All the seismic work was accomplished by Geo-Recon, Inc. of Seattle, Washington. Their letter report commenting on the findings of the geophysical survey along with the 3 seismic profiles, S-1 through S-3 are presented in Appendix A. The data presented in Appendix A have been incorporated in the main body of the report both in the text and in the principal figures showing the geologic conditions within the slide and in the vicinity of the slide.

Slope Indicators. To obtain information as to the depth and the characteristics of the zone of failure, two slope indicators were installed within the active slide area. The slope indicators were installed at boring locations B-4 and B-5.

The Wilson Slope Indicator is a precision instrument for measuring earth movement. The instrument is normally lowered down a grooved aluminum casing which controls the orientation of the instrument in a pre-determined direction. Inclination readings are taken at frequent intervals of depth and are subsequently converted to displacement. Consecutive readings at predetermined depth intervals and at periodic time intervals are used to determine the depth and the rate of ground movement.

The 4-inch diameter grooved casing was installed in the bore hole upon completion of the boring. This casing was installed through the hollow portion of the auger. As the hollow stem auger was withdrawn from the hole the open space between the walls of the boring and the outside of the aluminum casing was subsequently backfilled with pea gravel. The slope indicator installations were made by personnel of Soil Sampling Service. Shortly after completion of the slope indicator installation the initial readings were taken under the supervision of an inspector provided by Slope Indicator Company of Seattle, Washington: subsequent readings were made by personnel from our firm, generally at intervals of from 2 to 3 times per week subsequent to the installation of the instruments. The displacements observed in the slope indicators are plotted in the appropriate boring logs for B-4 and B-5 in Figs. 11 and 12 respectively.

F. LABORATORY TESTS

All the samples, both the jar samples and the Shelby tube samples, were visually examined in our laboratory to refine the classification made in the field by our inspector-geologist. The degree of moisture in the sample whether it was dry, moist or wet and the plasticity of the sample were particularly noted in the examination.

In addition to the visual classification, Atterberg limit and natural water content determinations were made on the overburden and highly weathered bedrock materials. The Atterberg limit data in combination with the natural content information provide qualitative information concerning the physical characteristics of the overburden and highly weathered materials encountered in the hillside.

Besides these routine tests, triaxial shear tests and torsion shear tests were also conducted. These tests were made in order to obtain the shear strength perimeters of the overburden clayey silts (Portland SILTS) and the reddish-brown plastic clays (CH) located within or near the failure zone. These materials exist in the hillside from the ground surface down to depths that vary from 20 to 65 feet. The triaxial tests, consolidated-undrained ($\overline{R}$) tests, were conducted on samples S-4 and S-5 that were obtained at a depth of about 20 feet in boring B-7. The diameter and the length of the tested specimens was about 2.1 and 5.0 inches, respectively. Before the application of the stress difference, the samples were saturated using a back pressure in the order of 100 psi. Following complete saturation of the samples the specimens were failed using essentially standard procedures. Fig. 17 summarizes the results of the triaxial compression testing. The figure shows, in the upper left hand corner, stress versus strain and porewater versus strain curves. Below these curves the Mohr strength envelope is shown for both the total stress conditions and effective stress conditions. As shown in this plot, the effective angle of shearing resistance, ϕ', for this material, which is classified as a brown silty clay (Portland SILTS) is in the order of 34 degrees.

The torsional shear tests were of two types each one developed in our Seattle laboratory. The initial tests were conducted using the procedures and apparatus shown in Fig. 18. The test is conducted using a ring which is placed on top of the clay. The underside of the ring is roughened. A normal load is applied to the ring and the torque that is required to twist the ring to failure is measured. The shearing stress is calculated from the measured values of torque and a plot of normal stress versus shearing stress is developed such as that shown in the figure. As indicated in the figure the angle of shearing resistance, ϕ', for the material, which is classified as a clayey SILT (ML) is in the order of 29 degrees.

Drilling revealed the existence in the hillside of a brick-red plastic clay (CH), located in most instances in the upper portion of either the decomposed or unweathered basalt bedrock. The clays or indications of this clay were present within the active zone of failure. In order to obtain realistic values of the shear strength of the plastic clays, those that would be representative of conditions within the zone of movement, a different torsional shear test procedure was developed as shown in Fig. 19. This test procedure permitted large scale movements on the failure surface, necessary to develop partial slickensides and a residual angle of shearing resistance. For this test two adjacent Shelby tube segments were cut and machined to eliminate any steel to steel surfaces. The plastic clay sample, contained within the Shelby tube segments, was then pre-cut. The bottom segment of the Shelby tube was fixed in the bowl of the consolidation test apparatus. The other segment was placed on top and a constant normal load applied. A torque, applied to the upper segment, twisted the segment until failure and, after failure, for at least 3 complete revolutions. The shearing stress on the failure surface was calculated for the peak and the residual conditions, i.e., after 3 complete revolutions, and a plot of normal stress versus shearing stress developed as shown in Fig. 19. As shown in the figure, the peak angle of shearing resistance, ϕ', of the plastic clay is in the order of 15 degrees whereas the residual angle of shearing resistance, ϕ' , is about 10 degrees. The cohesion intercept for both cases is in the order of 400 lbs. per sq. ft. To supplement the torsion shear tests, a clay mineral analysis was performed on a sample of brick red clay taken from boring B-6A, sample S-3. The analysis was conducted by Dr. James I. Mueller, a Professional Ceramic Engineer at the University of Washington (refer to Appendix B). The results indicate that the primary clay mineral in the plastic red clay is kaolinite. On this basis, the angles of shearing resistance obtained on the clay are, in our opinion, realistic and representative of the shear strength parameters within the zone of failure, although it is our opinion that in the slide the cohesion, c', probably approaches zero.

A summary of the visual classification of all samples and other pertinenet data such as laboratory test results and the types of laboratory tests that were completed on other samples is presented in Table III, which is enclosed in the report at the end of the text. The Atterberg limit data are summarized in the Plasticity Chart in Fig. 20 and also in the boring logs Figs. 8 through 16. The natural water contents that were determined in conjunction with the Atterberg limit tests are also presented in the boring logs.

G. REGIONAL GEOLOGY

The major geologic units which underlie the OMSI-Zoo area include the following from youngest to oldest:

1. Portland Hills Silt Formation - late Pleistocene Age.
2. Troutdale Formation - early Pliocene Age.
3. Helvetia Formation - early Pliocene Age.
4. Columbia River Basalt Formation - middle to late Miocene Age.

The entire OMSI-Zoo area is underlain at the ground surface by loessal soils of the Portland Hills Silt Formation (Upland Silt of Schlicker and Deacon, 1967). The formation occurs regionally throughout the Tualatin Mountains above elevation 250 feet where it caps the tops of the ridges and spurs. In the OMSI-Zoo area it consists of sandy silt, clayey silt and silty clay and ranges in thickness from 17 to 50 feet.

Soils of the Troutdale Formation which underlie the loessal soils were found only in one isolated locality at the toe of the slide area near boring B-9. Here the soils consisted of gray clayey silt with scattered pebbles and partly carbonized wood fragments. Fine grained soils of this formation, however, are present in the high road cuts immediately across Canyon Road to the south of the OMSI-Zoo complex.

Soils of the Helvetia Formation (?) were encountered in borings B-2, B-3, B-6, B-8 and B-8A. They consisted of deeply weathered brown, reddish-brown clay with scattered fine to medium sand and occasional pebbles. A brick-red clay bed which occurs above weathered basalt in borings B-8, B-8A and B-6 may also be a part of this formation. The soils in composition, are similar to deeply weathered latertic soils exposed near the Community of Helvetia in the Tualatin valley which were named the Helvetia Formation by Schlicker and Deacon, 1967. Because of the apparent erratic distribution and variable thickness (0 - 20 ft.) of these soils in the OMSI-Zoo area, we cannot be positive that they are part of the Helvetia Formation. The determinations are therefore tentative.

Basaltic lavas of the Columbia River Basalt Formation underlie all of the previously described formations in the OMSI-Zoo area and comprise most of the rock units in the Tualatin Mountains. At the OMSI-Zoo complex they consist of an upper unit of decomposed basalt that is firm to hard and has the composition of clayey silt, silty clay and sandy silt or silty very fine sand. Although lateritic in most respects, joint planes and the original mineral texture can be observed in much of the unit. The decomposed basalt unit is underlain throughout the OMSI-Zoo area by weathered dense basalt.

H. DISCUSSION OF SUBSURFACE CONDITIONS

Detailed subsurface information is provided primarily by borings B-1 through B-8, which were drilled as part of this investigation to depths ranging from about 57 to 100 feet below the ground surface. Additional subsurface information, obtained by others, has also been utilized in this study. The soil units which were penetrated in the borings are summarized as follows:

1. Manmade Fill. Manmade FILL was encountered in three borings at shallow depth. In boring B-1 and B-7 it was present from the ground surface down to about depth 9 feet and in B-8, from the ground surface down to depth 8 feet. Other areas of fill are indicated in Fig. 3 entitled Contours of Cut and Fill, Construction 1956-59.
2. Brown Silt and Clay (Portland Hills Silt Formation). The unit consists of firm to stiff, brown sandy SILT, clayey SILT and silty CLAY. It was present at the ground surface in all borings, except in those areas where fill existed. In boring B-4, numerous fractures and slickensides were found in the unit between depths

12 and 42 feet. On the basis of the Atterberg limit data, most of the material in this formation can be classified as a CL to ML-type material although occasional zones of relatively plastic clay (CH) are also found.

3. Reddish Brown Clay and Red Clay (Helvetia Formation (?)). The unit consists of very stiff, reddish brown and mottled brown clay with scattered fine to medium sand and occasional pebbles. It was penetrated in boring B-2, from 40 to 50 feet, in boring B-3 from 50 to 56 feet and in B-8 and B-8A from 25 to 46 feet. A brick-red clay bed was encountered in boring B-8 and B-8A from 46 to 49 feet and in boring B-6 from 25 to 40 feet. The erratic distribution of the Helvetia soils indicates that erosion prior to deposition of the Portland Hills Silt Formation may have removed the soils from part of the area. It is also possible that the unit is present in other areas, but too thin to be recovered in the sample interval or also, has been redistributed by landslide movements.

   The materials in this Formation, particularly the zones of brick-red clay are highly plastic and, as revealed by our laboratory tests, of very low shearing resistance. Our studies revealed that the failure zone at the base of the slide mass is primarily within this Formation or in materials of a similar highly plastic nature.

4. Firm to Stiff Clayey Silt - Decomposed Basalt (Columbia River Basalt Formation). The unit consists of firm to stiff, very mottled rust brown, clayey SILT and sandy SILT with scattered hard rock fragments. It was penetrated principally in boring B-5 from 20 to 35 feet.

5. Hard, Clayey Silt and Sandy Silt - Decomposed Basalt (Columbia River Basalt Formation). The unit consists of hard very mottled, rust brown, reddish and yellow brown and gray, clayey SILT and sandy SILT. Yellow mineraloid filling of vesicules indicates that some of the basalt was amygdaloidal. Although the unit is deeply weathered, the original mineral texture could often be observed and joint planes are also recognizable. The unit was penetrated in all borings and ranged in depths from 30 feet to about 90 feet; information from D&M boring #9, refer to Fig. 7, indicated that the unit could extend to a depth greater than 109 feet. Fractures and slickensides were observed in the unit in borings B-4, B-5 and B-7.

6. Dense Weathered Basalt (Columbia River Basalt Formation). This unit consists of dense brown to gray, crystalline basalt. It was penetrated in borings at depths ranging from 45 feet (B-6) to 88.5 feet (B-4) and all borings drilled in this investigation bottomed in the unit.

The subsurface information discussed above has been summarized in a general manner in 3 Geologic Cross Sections, designated A-A', B-B' and C-C' (Figs. 21, 22 and 23). The locations of these 3 sections are shown in Fig. 7: the figure shows that Geologic Cross Section A-A' extends through borings B-1 and B-2; Geologic Cross Section B-B' extends through borings B-3, B-4 and B-5; and Geologic Cross Section C-C' extends through borings B-6, B-7, B-8 and B-9. The Cross Sections have been prepared using subsurface information obtained from borings made by others, plus the geophysical survey made as part of this investigation. The location of the zone of failure at depth as detected by the Wilson Slope Indicators and other data is shown in each cross section.

Groundwater information is also shown on the cross sections alongside the piezometers. The water levels were obtained, as noted earlier, in May, 1969. A complete summary of the water level data for each piezometer and for the slope indicators at B-4 and B-5 is presented in Table IV, located at the end of the text. In general, the piezometric water levels indicate that groundwater is perched within various geologic units -- the Portland Hills Silts, the Helvetia Formation and also in the decomposed basalt, which compared to the other formations, is relatively permeable.

The piezometric water levels reveal that the groundwater conditions in the hillside are quite variable as might be expected in ground with a history of instability. For example, water levels were found to be in the order of 15 feet below the ground surface in the piezometers installed upslope of the active slide mass (B-2, B-3 and B-6). However, within the active landslide, water levels in the shallow piezometers varied from about depth 15 feet in boring B-4 and B-8 to 41 feet in B-5: no water was found in the piezometers at boring B-7. The high water level recorded at B-4 just downslope of the drainage curtain is of interest. It may indicate that the storm drainage system is contributing water to this locality. Alternatively, however, the high water levels in B-4 could indicate deterioration of the effectiveness of the drainage curtain in this area. These points will be discussed more fully in a later section.

Piezometric water levels in the deeper piezometers at each of the borings was almost non-existent. As a matter of fact, the piezometers were filled with water several times and subsequent readings indicated that the water had drained out of the piezometers. In each case, the piezometers were set at depths which penetrated at least a few feet into the dense basalt unit. In our opinion, the data indicate that the dense basalt is permeable and that the deep piezometers are acting as drains. That the deep piezometers are acting as drains, suggests that the use of slope indicator casings as observation wells would in this instance provide misleading water level information, since drainage would result in water levels lower than actual. Comparison of the water levels in the piezometers at B-4 and B-5 with the water levels in the respective slope indicator casings, Table IV, supports this concept.

Groundwater information developed at the OMSI-Zoo complex correlates well with information on regional water tables. Throughout the Tualatin Mountains in the Portland Region groundwater is known to occur under perched conditions in the Portland Hills Silt and under confined conditions in the Columbia River Basalt sequence. Static water levels in confined basalt aquifers are near the level of the Willamette River.

The seismic investigations provided important information on subsurface conditions, particularly between borings and at greater depths than the borings as shown in part on the cross sections. Three major units were defined by the seismic study: (1) an upper unit of 800 ft/sec material, (2) an intermediate unit of 4500/5250 ft/sec material and (3) two dense units of 7000-8000 ft/sec and 12,500 ft/sec material. The upper 800 ft/sec unit is a loose shallow surface layer of silt above the water table and is considered to be correlative with part of the Portland Hills Silt Formation. The intermediate velocity unit, 4500-5250 ft/sec, correlates well with the silt and clay units of the Portland Hills Silt Formation, the clay of the Helvetia (?) Formation and the clayey silt and silty clay phases of the decomposed (laterized) Columbia River Basalt Formation. The change from the 4500-5250 to the 7000-8000 ft/sec material correlates well with the weathered dense basalt unit in Geologic Section A-A', Fig. 21, at the toe of the slope, and in Geologic Section B-B', Fig. 22, throughout. Of significance, the contact of the decomposed basalt unit and the weathered basalt unit follows very closely the approximate zone of failure in the active landslide area as determined by slope indicators and other data. The lowermost velocity zone of 12,500 feet per second, while not penetrated in any of the borings, is typical of unweathered dense basalt.

I. DISCUSSION OF 1894 SLIDE

Fig. 1 shows the location of a large landslide that occurred in 1894, about 0.5 miles to the northeast of the OMSI-Zoo slide. The slide was first observed during the construction of City Reservoirs Nos. 3 and 4. The land area involved in the slide was in the order of about 30 acres.

The reservoirs are located in a small ravine in a City Park. During construction in the early part of August, 1894, a slip was observed about half way in the uphill slope. Close examination of this failure zone revealed that slippage was occurring between strata of blue and yellow clay, the yellow clay being above the blue. After this initial slippage, a reconnaissance of the entire hillside revealed cracks and scarps extending as much as 1700 feet uphill from the toe of the slide. The slide extended across the toe a distance of about 1100 feet.

The slide was investigated with borings and open shafts. The borings and shafts revealed the presence of a thin zone of blue clay overlying bedrock on which the slide mass was moving. In addition, from the shaft excavations, the character of the materials forming the mass of the slide was determined to be largely that of broken rock of small size mixed with clay. The shafts also disclosed the existence of numerous water pockets in the landslide mass, just above the bedrock surface. The drainage of these large water pockets had a marked affect on the rate of movement of the slide as indicated by surface surveys. In addition, the surface surveys revealed that there was a marked increase in the rate of movement of the landslide during the winter or rainy months, from about November to May inclusive, and a corresponding decrease in the rate of movement during the remaining months of the year, when the rainfall was considerably less.

As a result of the explorations and the survey measurements all of which revealed the zone of slippage and the relationship of water to the rate of movement of the slide mass, remedial work, consisting of an extensive system of drainage tunnels, was adopted. The network of drainage tunnels took several years to complete. For the most part the drainage tunnels were effective; however, the surface survey measurements that were taken following the completion of the remedial work revealed that slow creep-like movements continued to occur in the hillside. The average rate of movement in the hillside following completion of remedial work was in the order of 0.5 inches per year.

Based upon the foregoing and our investigations of the OMSI-Zoo slide discussed previously, certain similarities appear to exist between the two slides. First, the zone of failure of the OMSI-Zoo slide generally overlies weathered basalt bedrock. In addition, the samples of soil obtained within the zone of failure are essentially composed of plastic clay (CH), which exhibits characteristically a relatively low angle of shearing resistance, in the order of about 12 degrees. Secondly, as disclosed in the 1894 slide, groundwater conditions are erratic, but the surface surveys indicate that the rate of movement of the slide mass is related to the amount and intensity of the precipitation that falls on the hillside. Furthermore, study of both slides reveals that drainage was effective in controlling the slide movements, but it did not altogether halt the movements.

J. DISCUSSION OF REMEDIAL MEASURES

The work planned by the State at the toe of the slide consists principally of raising the grade of S. W. Canyon Road from about the new Vista Ridge tunnels westward to the underpass structure providing access to the Zoo. The location of the underpass structure is shown in the photograph in Fig. 2.

Cross sections of S. W. Canyon Road, provided by the State, show that the fill that will be placed to raise the grade of S. W. Canyon Road will vary considerably in thickness through the active slide area (Sta. 96 to Sta. 108). In general, from a maximum thickness of 22 ft. at Sta. 96 the thickness will decrease rather uniformly to about 1 ft. at about Sta. 106. In general terms the average thickness of the fill within the units of the active slide will be somewhat less than 10 ft. Stability analyses, presently underway, indicate that this average thickness of fill will increase the factor of safety of the hillside from about 1.0 (existing) to 1.1. In our opinion, such a marginal increase indicates that positive control of the landslide movements will not be achieved by the planned work. It is our opinion that, in order to be effective, a minimal factor of safety of 1.3 should be achieved with any new remedial work.

The history of hillside movements in conjuction with past remedial work indicates that drainage alone will not result in positive control of the landslide. The drainage curtain that was installed upslope of the slide (Fig. 2) slowed the ground movements, but it did not halt them. Hence, extensive new drainage does not seem to be the answer to stabilization. This concept is supported by our experience with other similar landslides which have demonstrated that drainage is not particularly effective, if, in the zone of failure, the material exhibits a relatively low angle of effective shearing resistance (ϕ angle) such as exists for this slide.

The most positive control of the OMSI-Zoo slide can be economically achieved, in our opinion, with a toe buttress constructed across the full width of the active slide. The following section outlines the approach to the design of the buttress as well as the details of design and construction.

K. DESIGN OF THE BUTTRESS

Stability Analyses

In order to evaluate the driving and resisting forces involved in the existing OMSI-Zoo landslide, several assumptions were made as part of our study: (1) the location (depth) and orientation of the failure zone was assumed to be moving along a nearly horizontal plane located approximately at elevation 552, through borings B-4, D&M #3, B-8 and B-9, refer to Fig. 7; (2) it was further assumed that the groundwater level in the landslide mass during the wet winter months is close to the ground surface and at that time, the factor of safety (F.S.), must approach 1.0.

The driving force tending to move the slide in a nearly horizontal direction toward S. W. Canyon Road consists of two components. One component of the driving force is the hydrostatic pressure. For this landslide, the depth to the probable failure zone at the head of the slide, i.e., 88 feet, provides a total hydrostatic driving force in the order of 242 kips. The other portion of the driving force is composed of an earth pressure force (P_A) which is a function of a coefficient of active earth pressure (k_a). This coefficient, in turn, is a function of the effective angle of shearing resistance (ϕ'_o) of the soils overlying the failure zone at the head of the slide.

The forces tending to resist movement consist of the shearing resistance along the failure zone and some minor passive resistance at the toe of the landslide. The shearing resistance along the failure zone is a function of the effective stresses, i.e., overlying effective unit weight and an effective angle of shearing resistance (ϕ'_f) (which is the residual and not the peak value).

On the basis of the foregoing assumptions, i.e., a F.S. =1, groundwater level at the ground surface and the assumed configuration of the landlide mass, the relationship of the effective angle of shearing resistance of the overburden soils

(ϕ'_o) to the effective angle of shearing resistance (ϕ'_f) was investigated. Fig. 24 shows the results of this study in the form of a curve of ϕ'_o vs. ϕ'_f(F.S.=1). The curve shows that if the angle of shearing resistance, ϕ'_o, of the overburden soils is taken equal to 34°, as obtained from laboratory triaxial testing, the effective angle of shearing resistance in the failure zone (ϕ'_f) must be approximately 8.5°. On the other hand, to obtain an angle of shearing resistance of from 10° to 12° in the failure zone, such as was obtained from the laboratory torsion shear tests, requires that the ϕ'_o of the overburden soils at the head of the slide vary from 17° to 3° respectively, refer to Fig. 24. In the calculations it was assumed that values of apparent cohesion, c', were equal to zero.

The values of the total driving forces, P_T, for each assumption of ϕ'_o are shown on the curve in Fig. 24 ($P_T=P_A$ (earth) + P_W(hydrostatic).

In our opinion the most realistic values of the effective angle of shearing resistance, ϕ'_o, of the overburden soils range from 34°, as obtained from triaxial testing, and 17°, calculated from an assumption of ϕ'_f equal to 10°. However, the value of ϕ'_o equal to 34° may be somewhat on the high side because of indeterminant variations in laboratory test conditions from those actually existing in the field. Hence, for our study we considered that a practical and satisfactory buttress could be designed for a factor of safety, F.S.=1.25, using the assumptions: $\phi'_o=17^\circ$ and $\phi'_f=10^\circ$.

Using these assumptions, the total required resisting force of the toe buttress was determined to be approximately 100 kips per lin. ft. Consideration was given in the calculations to the effect of the raising of the grade of S. W. Canyon Road as presently planned by the State Highway Department. Using the design value of 100 kips, the resulting factors of safety for two other conditions were calculated as a matter of interest:

one condition, assuming a ϕ'_o equal to 34°, resulted in a factor of safety, F.S.=1.29; the other condition, assuming a ϕ'_o equal to 3°, resulted in a factor of safety, F.S.=1.21. Therefore, the calculations suggest that the buttress will provide sufficient resisting force for a wide range of subsurface conditions and characteristics and, yet, at the same time, not be overly conservative and, hence, uneconomical. An evaluation of the suitability of the design also assumes that positive steps will be taken to evaluate and repair where necessary the sewer network in and immediately adjacent to the slide as outlined in a later section.

Design Asumptions

In the design of the buttress to provide a total resisting force in the order of 100 kips per lin. ft. certain design assumptions were made as follows: (a) The buttress material would consist of fairly clean, well-graded pit run basalt rock from Cobb's quarry and that it would have an angle of shearing resistance (ϕ') of at least 40° and an in-place unit weight of approximately 130 lbs. per cu. ft. (b) It was further assumed that the buttress would be adequately protected from saturation by a drainage blanket and a subdrain system which would be connected to the existing storm sewer system at the toe of the slope. (c) The bottom of the excavation for the buttress would be sufficiently cleaned of slide zone material to result in an angle of shearing resistance ϕ', along the base of the buttress of 35°.

In addition, a 5-foot depth to the failure zone below the existing ground surface at the toe of the slide was assumed to exist throughout the proposed buttress location. This depth was based on the results of the geophysical survey, seismic line S-3, and boring B-9. The seismic data along S-3, which is presented in Fig. 25, indicates that a formational boundary between 2,500f/s material and 8,500f/s material is present at a depth of from 4 to 10 feet below the existing ground surface between highway stations 98+00 and 104+00, although somewhat deeper at the latter station. In our opinion, this depth represents for practical purposes the base of the failure zone within a range of from 2 to 3 feet, although the exact depth of excavation for the buttress will from necessity be determined during construction. In this respect, it is essential that the depth of excavation be sufficient to found the buttress below the zone of failure and on dense weathered basalt. In order to assure that the required depth of excavation has been attained, some backhoe test pits or other type of explorations will be required during construction in the bottoms of the excavations. The test pits would allow a visual examination to be made of the competency of the bedrock and would provide the additional assurance that the base of the buttress was indeed below the zone of sliding. In order for such assurance to be gained we recommend that an evaluation of the test pits be accomplished by an engineer familiar with the subsurface conditions and the design requirements of the buttress.

Buttress Configuration and Location

Based on the results of our design analysis and study we recommend that a rock buttress of the configuration shown in Figs. 26 and 27 be constructed between highway stations 98+00 and 104+00 (approx.). A plan view of the recommended buttress location is shown on Fig. 28. Figs. 21 and 22 show the buttress size and shape in relation to the total landslide profile.

Our design requires that the buttress have a minimum height above the failure zone of 30 feet. Therefore, the top of the buttress will decrease from approximately elevation 602 at station 104+00 to about elevation 573 at station 98+00; a decrease of approximately 5 feet per 100 feet of buttress. Our analysis indicates that the buttress base width required for stability varies from a maximum of 50 feet at station 103+50 to 104+00, to the minimum width of 28 feet occurring at station 98+00 to 99+00. Between these stations the width of the buttress should change linearly.

Buttress Construction

The buttress design presented in the foregoing is based on the construction being accomplished during the dry season. In our opinion, construction of the buttress at any other time should not be attempted because of the increased risk of triggering large scale movements of the landslide mass. Such a risk is inherent in the construction of the buttress at any season because during excavation for the buttress the resistance to movement is lowered.

In order to reduce the risk of triggering damaging movements, the buttress should be constructed in segments, not more than 120 feet in width at any given time. The construction should begin at station 98+00 and proceed in continuous sections toward the underpass. We envision that construction will be accomplished using front-end loading equipment in lieu of scrapers, possibly supplemented by drag-lines in places. Excavation of the trench and placement of the buttress material should be done concurrently as shown in Fig. 29, so that construction of the buttress will occupy about 2/3 of the maximum excavation width at any given time. The buttress sections shown in Figs. 26 and 27 show an excavation slope of 1H:1V for the hillside material. Steeper cut slopes, should they be found practical, would be permissible.

Movements of the landslide, if any, should be monitored and reviewed on a daily basis during construction to detect any dangerous trend of accelerated movement. If such a trend is observed the contractor should be prepared at any time to mobilize all available equipment to begin backfilling the excavations existing at the time. Such backfilling would continue until the trend of accelerating movements has been reversed. Afterwards, it may be necessary to modify the approach to construction, possibly including a reduction in the width of open excavation to less than 120 feet. Such a reduction may require reassessment of the contractor's excavation approach.

Our present evaluation of the permissible excavation width (120 feet) is based upon our interpretation of the rise in groundwater level this past winter that was sufficient to lower the factor of safety to about 1.0. Groundwater level data were not available for the past winter period, i.e., November, 1959 through February, 1969 and, hence, it was necessary to assume that the groundwater table was close to the ground surface during this period as a result of the relatively large amount or precipitation that fell. If this assumption is correct, the present groundwater level in the slide mass (which is at a depth of 15 feet or even lower in some areas) has increased the factor of safety of the slide mass, such that localized excavation at the toe should not result in overall instability. On the other hand, if the present groundwater level is only several feet lower than the winter level, the slide mass may still be in a very marginal state of equilibrium and localized toe excavations could have a significant effect on stability. The foregoing emphasizes the care and caution required to satisfactorily accomplish construction of the buttress.

It is recommended that the buttress material consist of relatively unweathered basalt quarry run rock with not more than 5 percent by weight passing the No. 200 sieve (wet analysis). The recommended maximum rock size is 14 inches although the use of a larger size material can be evaluated. The material should be placed in lifts not in excess of 18 inches and compacted by 4 passes of a vibratory roller having a static weight of at least 8 tons. Above the rock portion of the buttress, on-site material may be used in the buttress fill provided that the material is compacted to a density of at least 95 percent of the standard Proctor maximum dry density and, in addition, that the recommended drainage blanket is extended to the full height of the buttress fill as shown in Figs. 26 and 27.

Drainage System

The drainage system recommended for the buttress is shown in Figs. 26 and 27. The drainage blanket should consist of two zones, one a transition and the other a filter zone. The transition should consist of well-graded 1-1/2 inch minus clean (washed) crushed rock or sand and gravel material with not more than 2 percent passing the No. 200 sieve and the filter should consist of clean washed sand. The gradation requirements of the transition and filter materials are shown in Fig. 30. It is of primary importance that the transition blanket at the base of the buttress be placed in contact with the dense weathered basalt. The transition should be designed to drain to a collection system located beneath the outboard toe of the buttress. A detail of the recommended collection system is shown in the upper portion of Fig. 26. The collector drain pipe should consist of a 6-inch diameter perforated asphalt-coated pipe or similar surrounded by a 12-inch thick envelope of washed pea gravel or washed 1/2 to 1/4 inch crushed rock. A minimum cover of 2 feet of transition material over the pea gravel envelope is recommended for the protection of the collector drain pipe. In order to permit flushing the collector pipe, a stand-pipe with manhole cover should be provided near station 104+00 for periodic clean-out. Suitable means for removal of the collected seepage must be provided, perhaps through the connection to an existing storm or sewer system.

L. RECOMMENDED INSTRUMENTATION

In order to monitor ground movements during construction of the buttress, we recommend that instrumentation (in addition to that presently operative) be installed near the ground surface in the landslide mass to warn of any dangerous trend of movement developing in the hillside. Such instrumentation would consist of reference hubs or more sensitive extensometers. The exact number, location and type of such monitoring equipment can be discussed with you as the buttress design is finalized.

M. ADDITIONAL RECOMMENDED REMEDIAL WORK

Besides the toe buttress, additional measures can be taken which, in our opinion will measurably increase the factor of safety in the hillside. Fig. 31 shows a general plan of the network of sewer lines in a portion of the OMSI-Zoo complex. The figure shows that most of the precipitation that falls in the area upslope of the slide, i.e., the Pitch and Putt Golf Course, the Parking Area north of OMSI and similar, runs off into catch basins and into the sewer network, where it is collected and led across the slide scarp in the general areas of A, B, C and D, refer to Fig. 31. In our opinion, with the sizeable displacements that have occurred in the slide over the past 10 years, breaks most likely exist in the sewer network, particularly at the major slide scarp, that allow much of the storm run-off to escape from the sewer lines into the slide. Hence, the effectiveness of the drainage curtain may be, in a very significant way, nullified. Because entrance of large quantities of storm run-off into the slide would be very detrimental to stability we strongly urge that a comprehensive survey be made of the sewer network system, in the slide mass itself and where it crosses over the major slide scarp. In our opinion, an economical approach to such a survey would be by use of T.V. cameras, which can be drawn through the sewer line from one manhole to another, observing breaks, cracks, and similar along the way. The extent of any defects in the lines can be evaluated and plans made for repairs.

In this regard, the defects should be if at all possible corrected by the next winter season, but after the toe buttress has been constructed. In so doing, the corrective measures should take into account that some small movements may still continue to develop in the slide area, particularly for two or three years after the installation of the toe buttress, as the slide mass and the buttress materials adjust to the new stress conditions.

N. COMMENTS ON POSSIBLE REMEDIAL WORK BELOW OMSI

Some sloughing and local slope movements have occurred in the slope adjacent to and downslope of the Oregon Museum of Science and Industry Building (OMSI). In addition, ground movements near the southwest corner of the building are evident and are considered associated with the massive landslide investigated in this study. At the present slope angle (approximately 35°) the slope downhill of OMSI will, in our opinion, continue to show signs of local slope instability. One method of stabilization, which would locally tend to increase the overall factor of safety of the slope, would be to flatten the slope by constructing a timber crib wall at the toe. Typical side and front views of such a timber crib wall are presented with a general cross-section of the slope in Fig. 32. Specific recommendations as to the configuration of the crib wall and other design details, however, would require additional engineering study as noted in the Figure. In addition, a complete engineering study of OMSI, which is beyond the scope of this report, would reveal if any additional measures should be adopted to minimize the risk of damage to OMSI as a result of future ground movements.

O. LIMITATIONS

The conclusions and recommendations contained in this report assume that the exploratory borings are representative of the subsurface conditions throughout the site, i.e., the subsurface conditions everywhere are not significantly different from those disclosed by the borings. If, during construction, subsurface conditions different from those encountered in the exploratory holes are observed or encountered, or appear to be present beneath or beyond excavations we should be advised at once so that we can observe and review these conditions and reconsider our recommendations where necessary. If there is a substantial lapse of time between the submission of this report and the start of work at the site, or if conditions have changed due to natural causes or construction operations at or adjacent to the site, it is recommended that an engineering review of this report be made to determine the applicability of the conclusions and recommendations considering the changed conditions or time lapse.

The State should make certain that the recommendations in this report, together with those which may be given subsequently, are incorporated into the plans and further that these recommendations are properly carried out during construction. In this respect, we would appreciate the opportunity to review all pertinent plans and specifications made in connection with the buttress and to observe construction. The discussion in this report has outlined the critical nature of the work and the inherent risks and hazards involved with respect to the construction.

P. ACKNOWLEDGMENTS

The evaluation and discussion of geological conditions comprising the hillside and the preparation of various geologic cross sections and plan views of landform features were prepared by Mr. Robert J. Deacon, Project Geologist.

SHANNON & WILSON, INC.

Prepared by:

L. Radley Squier

L. Radley Squier

Approved by:

Walter L. Wright

6029
SEPT. 8, 1967
L. RADLEY SQUIER

4701
MAY 5 1961
WALTER L. WRIGHT

TABLE III SUMMARY OF TEST DATA

0-406

Sheet 1 of 9.

Boring No.	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits			Other Tests	Sample Classification
					LL	PL	PI		
B-1	S-1	2.5-4.0	3,4,4	46	48	26	22		FILL: Firm, mottled rust brown, clayey SILT (decomposed Basalt?).
	S-2	7.5-9.0	1/12, 2/16						FILL: Soft, brown, silty CLAY with scattered angular rock fragments.
	S-3	12.5-14.0	1,2,2	29	33	22	11		Soft, brown-gray, clayey SILT. Fill?
	S-4	17.5-19.0	3,4,5						Firm, mottled rust brown, clayey SILT or silty CLAY with scattered angular rock fragments - fill? (decomposed Basalt?)
	S-5	22.5-24.0	2,2,3	40					Firm, mottled rust brown, clayey SILT (decomposed Basalt).
	S-6	27.5-29.0	4,4,6						Firm, very mottled rust brown, clayey SILT with weathered rock fragments and yellow mineraloids (decomposed Basalt).
	S-7	32.5-34.0	10,12, 15	39					Hard, brown, clayey SILT with hard weathered rock fragments (decomposed Basalt).
	S-8	37.5-39.0	12,10, 10						Hard, mottled brown, clayey SILT (possible decomposed Tuff).
	S-9	42.5-44.0	8,8,11	42					Stiff to hard, mottled brown-gray, clayey SILT - basaltic texture in gray areas (decomposed Basalt).
	S-10	47.5-49.0	6,12,12						Hard, brown, and gray sandy SILT (decomposed Basalt).
	S-11	52.5-54.0	6,11,15	52					Hard, mottled yellow brown, clayey SILT

		44.0	8,8,11	42					SILT - basaltic texture in gray areas (decomposed Basalt).
	S-10	47.5-49.0	6,12,12						Hard, brown, and gray sandy SILT (decomposed Basalt).
	S-11	52.5-54.0	6,11,15	52					Hard, mottled yellow brown, clayey SILT (decomposed amygdaloidal Basalt - vesicles filled with yellow mineraloid).
	S-12	57.5-59.0	8,13,20						Hard, gray brown, sandy SILT, or silty very fine SAND, with angular rock fragments (decomposed Basalt).
	S-13	62.5-64.0	6,19,30						Very hard, brown, weathered BASALT - friable to crumbly.
	S-14	67.5-69.0	26,32, 53						Very hard, brown to gray, weathered BASALT - friable.
	S-15	72.5-74.0	21,30, 75						Dense, brown, weathered BASALT with yellow mineraloid filling of veins or joints.
	S-16	77.5-78.4	21, 50/5"						Very hard, brown, weathered BASALT - friable, crumbles easily.
	S-17	82.5-83.0	50/6"						Dense, gray, weathered BASALT.
B-2	S-1	2.5-4.0	3,4,6	28	34	23	11		Firm, brown, slightly clayey SILT.
	S-2	7.5-9.0	4,4,5						Firm, brown, clayey SILT - moist, possible water bearing.
	S-3	12.5-14.0	5,6,8	22	38	17	21		Very firm, mottled rust brown, silty CLAY with pea size shot.
	S-4	17.5-19.0	5,6,9						Stiff, brown, clayey SILT.

TABLE III SUMMARY OF TEST DATA

Sheet 2 of 9.

Boring No.	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits			Other Tests	Sample Classification
					LL	PL	PI		
B-2 CONTINUED									
	S-5	22.5-24.0	3,4,5	34	58	27	31		Stiff, brown, silty **CLAY** with possible slickensides.
	S-6	27.5-29.0	3,2,3						Firm, brown, slightly clayey **SILT** - water bearing.
	S-7	32.5-34.0	6,8,	24	32	22	10		Firm, brown, **SILT** with scattered weathered sand (?).
	S-8	37.5-39.0	4,5,9						Firm, brown, very clayey **SILT**.
	S-9	42.5-44.0	6,9,13	25	36	19	17		Very stiff, slightly reddish brown **CLAY**.
	S-10	47.5-49.0	10,13,15	25	58	15	43		Very stiff, dark brown **CLAY** with scattered weathered fine to medium sand.
	S-11	52.5-54.0	4,6,7						Firm, mottled reddish brown, rust stained, clayey **SILT** - **Helvetia Formation** ?
	S-12	57.5-59.0	6,8,9						Hard, mottled brown, rust stained, clayey **SILT** (decomposed Basalt).
	S-13	62.5-64.0	11,11,20						Hard, very mottled rust brown, clayey **SILT** (decomposed Basalt).
	S-14	67.5-69.0	8,11,11						Hard, very mottled rust brown, clayey **SILT** (decomposed Basalt).
	S-15	72.5-74.0	7,8,9						Hard, very mottled rust brown, clayey **SILT** (decomposed Basalt).

		64.0	20						Hard, very mottled rust brown, clayey SILT (decomposed Basalt).
	S-14	67.5-69.0	8,11,11						Hard, very mottled rust brown, clayey SILT (decomposed Basalt).
	S-15	72.5-74.0	7,8,9						Hard, very mottled rust brown, clayey SILT (decomposed Basalt).
	S-16	77.5-79.0	8,10,12						Hard, very mottled rust brown, clayey SILT (decomposed Basalt) with vertical iron oxide stains. Basalt texture visible.
	S-17	82.5-84.0	6,7,12						Hard, dark brown-gray, silty CLAY. Basalt texture visible - jointed (decomposed Basalt).
	S-18	87.5-89.0	6,9,13						Hard, mottled, dark brown to yellow brown clayey SILT (decomposed Basalt).
	S-19	92.5-94.0	5,6,9						Stiff, mottled brown and brown-gray, clayey SILT - with possible disturbed zones (decomposed Basalt).
	S-20	97.5-99.0	19,21,32						Hard, very mottled brown gray with purple cast, silty CLAY and sandy SILT - possible disturbed zone (decomposed Basalt).
	S-21	102.5-102.7	50/2"						Dense, gray, weathered BASALT.
B-3	S-1	2.5-4.0	2,3,3						Firm brown, clayey SILT.
	S-2	7.5-9.0	2,3,3	32.1	36	30	6		Firm, mottled, rust brown, slightly clayey SILT, micaceous.
	S-3	12.5-14.0	5,3,4						Firm, very mottled, rust brown, slightly clayey SILT. Becomes medium gray sandy micaceous SILT in bottom part of sample.

TABLE III SUMMARY OF TEST DATA

0-406
Sheet 3 of 9.

Boring No	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other Tests	Sample Classification
B-3 CONTINUED									
	S-4	17.5-19.0	2,3,5	26	37	17	10		Firm, brownish gray, silty CLAY with scattered fine peaty matter.
	S-5	22.5-24.0	2,3,4						Firm, slightly mottled tan and light brown, slightly clayey SILT.
	S-6	27.5-29.0	3,5,5	32	58	26	32		Verv firm to stiff, mottled brown very clayey SILT.
	S-7	32.5-34.0	1,2,3						Firm, brown, clayey SILT. Micaceous.
	S-8	37.5-39.0	4,5,7	27	42	20	22		Firm, mottled brown, clayey SILT with scattered iron shot.
	S-9	42.5-44.0	3,3,5						Firm, brown, clayey SILT.
	S-10	47.5-49.0	6,7,9	40	65	35	30		Stiff, mottled rust brown, silty CLAY or clayey SILT.
	S-11	52.5-54.0	6,9,13	27	49	27	22		Very stiff, mottled brown CLAY with scattered weathered sand up to pebble size. Helvetia Formation(?).
	S-12	57.5-59.0	7,10,13						Very stiff to hard, mottled gray, iron stained, clayey SILT or silty CLAY (decomposed Basalt).
	S-13	62.5-64.0	10,14,19						Hard, mottled gray, sandy clayey SILT with scattered pebble size rock fragments (decomposed Basalt).
	S-14	67.5-68.5	20,55/6"						Dense hard, brown, rust stained, weathered BASALT

									stained, clayey SILT or silty CLAY (decomposed Basalt).
	S-13	62.5-64.0	10,14, 19						Hard, mottled gray, sandy clayey SILT with scattered pebble size rock fragments (decomposed Basalt).
	S-14	67.5-68.5	20, 55/6"						Dense hard, brown, rust stained, weathered BASALT.
	S-15	72.5-72.6	50/1"						Dense, crystalline, gray BASALT.
	S-16	77.5-77.8	50/3"						Dense, crystalline, dark gray BASALT.
B-4	S-1	2.5-5.0	Push	24					Very firm, mottled brown, clayey SILT with scattered rocks and grass stems.
	S-2	7.5-10.0	Push	29	39	28	11		Firm, light brown, slightly clayey sandy SILT - micaceous.
	S-3	12.5-15.0	Push	30	45	27	18		Firm, mottled light brown to yellow brown, clayey SILT with diagonal slickensides at bottom of sample - fractured. TOP SLIDE ZONE.
	S-4	17.5-20.0	Push	31	46	27	19		Very firm, mottled gray-brown, greenish cast, CLAY with abundant slickensides and fractures @ 30-60°. Scattered angular coarse SAND and Pebbles. SLIDE ZONE.
	S-5	22.5-25.0	Push	40 35	53	29	24		Top 0.2 feet: Soft, mottled green brown, CLAY with horizontal banding. Fractured. Bottom 1.8 feet: Very firm brown silty CLAY with several diagonal fractures - 45-60°. SLIDE ZONE.
	S-6	27.5-30.0	Push	34	42	25	17		Soft to firm, very clayey SILT - occasional fractures - no slickensides.

0-406

TABLE III SUMMARY OF TEST DATA

Sheet 4 of 9.

Boring No.	Sample No.	Depth feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits			Other Tests	Sample Classification
					LL	PL	PI		
B-4 CONTINUED									
	S-7	30.0-32.5	Push	35	42	33	9		Firm, medium brown, clayey SILT - uniform texture throughout sample - no apparent fractures.
	S-8	32.5-37.0	Push to refusal	23	39	28	11		Firm, brown, clayey SILT - no apparent fractures.
	S-9	34.5-39.8	Push	27	44	21	23		Very firm, mottled brown, CLAY with scattered iron staining - fractured in bottom 2-inches.
	S-10	37.3-39.8	Push	37	54	32	22		Firm, brown, very clayey SILT or silty CLAY with scattered iron shot - no evidence of disturbance.
	S-11	40.0-42.5	Push	36	50	32	18		Firm, brown, very clayey SILT with scattered iron streaks and shot. Slickensides on random vertical fractures in bottom 0.5 feet.
	S-12	42.5-45.0	Push	36	58	41	17		Top 3 inches: Firm, brown clayey SILT or silty CLAY. Base of Portland SILT. Bottom 12 inches: Very mottled, reddish and yellow brown, clayey SILT - fractured (decomposed Basalt).
	S-13	45.0-47.0	Push to refusal	45	66	46	20		Very firm, very mottled reddish brown and yellow brown, gray near bottom, clayey SILT. Fractured, appears to be badly disturbed (decomposed Basalt).
	S-14	47.0-49.0	Push to refusal	45	55	39	16		Hard, very firm, very mottled red, brown, gray, banded, clayey SILT - fractured - 70-90° with slickensides.

	S-13	45.0-47.0	Push to refusal	45	66	46	20		Very firm, very mottled reddish brown and yellow brown, gray near bottom, clayey SILT. Fractured, appears to be badly disturbed (decomposed Basalt).
	S-14	47.0-49.0	Push to refusal	45	55	39	16		Hard, very firm, very mottled red, brown, gray, banded, clayey SILT - fractured - 70-90° with slickensides.
	S-15	52.5-54.0	4,6,11						Stiff, mottled brown with yellow specks, clayey SILT or silty clay with occasional hard pea size rock fragments (decomposed Basalt).
	S-16	57.5-59.0	4,9,11						Very stiff, mottled brown, silty CLAY or clayey SILT with scattered angular decomposed rock fragments containing amygdaloids of a yellow mineraloid.
	S-17	62.5-64.0	4,6,10						Very stiff, gray brown, clayey SILT with yellow specks and iron staining. Common slickensides (decomposed Basalt - has much of textural characteristics of unweathered Basalt).
	S-18	67.5-69.0	8,9,12						Hard, gray with iron stains, slightly clayey sandy SILT or very fine sand with yellow mineraloids (decomposed Basalt).
	S-19	72.5-74.0	19,23,24						Hard, gray brown, sandy SILT or silty very fine SAND (decomposed Basalt).
	S-20	77.5-79.0	9,10,11						Stiff, very mottled brown black yellow, CLAY with mixed types of decomposed rock fragments. Probable disturbed zone.
	S-21	82.5-84.0	11,19,28						Hard, gray, silty very fine SAND with scattered yellow mineraloids (decomposed Basalt).

0-406

TABLE III SUMMARY OF TEST DATA

Sheet 5 of 9.

Boring No.	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits			Other Tests	Sample Classification
					LL	PL	PI		
B-4 CONTINUED									
	S-22	87.5-89.0	21,30,41						Dense, gray with iron stains, sandy SILT or silty very fine SAND (weathered Basalt).
	S-23	92.5-93.0	62/6"						Dense, reddish brown, vesicular weathered BASALT.
	S-24	97.5-98.4	29,63/5"						Dense, red and brown, weathered BASALT. Fractures horizontal to 70°, vesicular to amygdaloidal.
B-5	S-1	2.5-4.0	2,3,4	23	40	27	13		Firm, mottled rust brown, slightly clayey SILT, micaceous.
	S-2	7.5-9.0	4,4,5	29					Firm, brown, fine sandy SILT with some mica and clay.
	S-3	12.5-14.0	3,4,4	30	58	24	34		Firm rust brown, very clayey SILT or silty CLAY.
	S-4	17.5-19.0	2,2,4	30					Firm, light brown, clayey SILT.
	S-5	22.5-24.0	3,4,6	49	68	41	27		Firm, mottled dark gray-brown, clayey SILT with scattered yellow mineraloids (decomposed Basalt).
	S-6	27.5-29.0	3,5,6	46					Firm, very mottled rust brown with manganese stains, clayey SILT (decomposed Basalt).
	S-7	32.5-34.0	6,9,13	45					Stiff, mottled rust brown, clayey SILT with scattered yellow mineraloids (decomposed Basalt).
	S-8	37.5-							

		29.0	3,5,6	46					Firm, very mottled rust brown with manganese stains, clayey SILT (decompose Basalt).
	S-7	32.5-34.0	6,9,13	45					Stiff, mottled rust brown, clayey SILT with scattered yellow mineraloids (decomposed Basalt).
	S-8	37.5-39.0	6,11,13	37					Hard, mottled dark brown to black and yellow, clayey SILT. Sample appears to be about 80 percent angular rock fragments in a matrix of clay (decomposed Basalt).
	S-9	42.5-44.0	9,10,11	34					Very stiff, brownish gray, clayey SILT with scattered hard angular Basalt fragments up to 1.5 inches (decomposed Baslat).
	S-10	47.5-49.0	12,13,15	32					Hard, gray brown, rust stained, sandy SILT or silty very fine SAND: increased moisture (decomposed Basalt).
	S-11	52.5-54.0	7,24,31	25					Hard, gray and gray brown, rust stained, silty SAND with scattered Basalt fragments: increased moisture (decomposed Basalt).
	S-12	56.0-57.5	7,8,12	29					Very stiff, gray brown, sandy SILT with about 1/2 sample very hard Basalt fragments up to 1.5 inches (decomposed Basalt--possible slide breccia).
	S-13	57.5-59.0	16,19,12						Hard, gray, iron stained, sandy SILT with about 1/2 of sample very hard Basalt fragments up to 3/4 inch (decomposed Basalt - possible slide breccia).
	S-14	62.5-63.5	21,57						Soft to moderately firm, mottled dark gray brown clayey SILT, at times sandy, with scattered hard Basalt fragments. Sample appears to be slide breccia - possible disturbed zone.

TABLE III SUMMARY OF TEST DATA

0-406

Sheet 6 of 9.

Boring No.	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits			Other Tests	Sample Classification
					LL	PL	PI		
B-5 CONTINUED									
	S-15	65.0-65.8	31, 50/3"	39	63	40	23		Hard, mottled gray brown, sandy CLAY. Sample appears to be deeply weathered lithic Tuff (angular rock fragments in a fine matrix).
	S-16	67.5-67.9	100/5"						Dense, gray, vesicular Basalt, weathered with some sandy SILT (decomposed Basalt).
	S-17	70.0-70.3	50/3"						Dense, gray, vesicular Basalt with some weathered zones of silty sand composition.
	S-18	72.5-72.8	50/3"						Dense, mottled brown, weathered BASALT.
	S-19	75.0-75.1	50/1"						Dense, brown, weathered BASALT.
	S-20	77.5-77.8	50/3"						Very dense, gray, weathered vesicular BASALT.
	S-21	80.0-80.1	50/1.5"						Dense, dark gray to black, weathered BASALT with some clayey silt zones.
	B-22	82.5-82.6	50/1"						No recovery.
B-6	S-1	2.5-4.0	6,8,9	34					Very firm, brown, clayey SILT - upper dark brown part of sample may be FILL.
	S-2	7.5-9.0	4,4,6	33					Firm, mottled brown SILT with trace of clay and mica.
	S-3	12.5-14.0	3,4,6	24	42	19	23		Firm, very mottled brown, clayey SILT with dark brown iron nodules and staining.
	S-4	17.9-							Firm light brown clayey SILT with gray

B-6	S-1	2.5-4.0	6,8,9	34					Very firm, brown, clayey **SILT** - upper dark brown part of sample may be **FILL**.
	S-2	7.5-9.0	4,4,6	33					Firm, mottled brown **SILT** with trace of clay and mica.
	S-3	12.5-14.0	3,4,6	24	42	19	23		Firm, very mottled brown, clayey **SILT** with dark brown iron nodules and staining.
	S-4	17.9-19.0	3,4,5	30					Firm, light brown, clayey **SILT** with gray streaks. Possible slickensides at 18.5 feet
	S-5	22.5-24.0	4,5,9	26	46	26	20		Very stiff, brown with gray streaks, silty **CLAY**.
	S-6	27.5-29.0	9,11,13	25	50	23	27		Very stiff, mottled reddish brown **CLAY**. Sample appears to contain fragments of brown clay with gray streaks mixed with red clay (possible disturbed zone).
	S-7	32.5-34.0	9,15,18	31					Hard, red **CLAY** with gray streaks (weathering) appears disturbed.
	S-8	37.5-39.0	5,8,9	34	62	31	31		Very stiff, red **CLAY** as as above with vertical gray streaks - possible disturbed zone.
	S-9	42.5-44.0	7,14,18						Hard, mottled gray with yellow specks, slightly clayey sandy **SILT**. Yellow specks are weathered mineraloids (decomposed Basalt).
	S-10	47.5-49.0	27, 50/6"						Dense, mottled gray, weathered **BASALT** with zones of yellow mineraloids up to 1/2 inch.
	S-11	52.5-54.0	50/6"						Very dense, gray-brown, weathered **BASALT**.
	S-12	57.5-57.6	50/1"						Very dense, gray-brown, weathered **BASALT** (wet).

TABLE III SUMMARY OF TEST DATA

0-406
Sheet 7 of 9.

Boring No	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other Tests	Sample Classification
B-7	S-1	2.5-4.0	2,3,4	28					Firm, mottled brown, clayey SILT (possible FILL).
	S-2	7.5-9.0	2,3,3	29					Soft to firm, dark brown and light brown clayey SILT (possible FILL).
	S-3	12.5-15.0	Push	30.5					Firm, rusty-brown, fine sandy SILT with trace of clay.
	S-4	17.5-20.0	Push	33					Medium, rusty-brown fine sandy SILT with organics: clayey toward bottom.
	S-5	22.5-25.0	Push	30 32	46	25	21	$\bar{R}$ Triaxial Tests $\gamma = 120.5$	Medium, tan to brown, slightly fine sandy SILT, trace of organics: some pockets of tan clayey SILT.
	S-6	27.5-30.0	Push	29	40	25	15		Very stiff, light brown, clayey fine sandy SILT with organics. Bottom 6 inches: Green, hard, silty fine SAND (decomposed Basalt).
	S-7	32.5-34.0	8,14,18						Hard, brown, clayey SILT or silty clay and light brown-gray, clayey SILT - slickensides @ contact of brown clay and gray clayey silt (possible disturbed zone) (decomposed Basalt).
	S-8	37.5-39.0	7,18,21						Hard, brown-gray and dark gray, clayey SILT with vertical veins of weathered yellow mineraloid (decomposed Basalt).
	S-9	42.5-43.5	12, 51/6"						Hard, brownish gray, sandy clayey SILT with veins of iron stains (decomposed Basalt).
	S-10	47.5-49.0	30,36, 33						Hard, gray, sandy SILT with yellow mineraloids filling veins (decomposed Basalt).

									with vertical veins of weathered yellow mineraloid (decomposed Basalt).
	S-9	42.5- 43.5	12, 51/6"						Hard, brownish gray, sandy clayey SILT with veins of iron stains (decomposed Basalt).
	S-10	47.5- 49.0	30,36, 33						Hard, gray, sandy SILT with yellow mineraloids filling veins (decomposed Basalt).
	S-11	52.5- 53.9	18,36, 50/5"						Hard, gray with yellow cast, rust stained sandy SILT (decomposed Basalt).
	S-12	57.5- 59.0	20,37, 44						Very hard, gray with rust stains and yellow mineraloids, sandy SILT (moist) (decomposed Basalt).
	S-13	62.5- 64.0	37,33, 44						Very hard, blue gray and brown, silty CLAY with hard weathered rock fragments (possible disturbed zone).
	S-14	67.5- 69.0	10,16, 24	42	56	42	14		Top: Mottled brown, silty CLAY with zones of reddish brown CLAY (possible disturbed zone). Bottom: Gray-brown, weathered, amygdaloidal BASALT.
	S-15	72.5- 74.0	18,27, 34						Hard, gray, sandy clayey SILT with zones of yellow mineraloid (decomposed Basalt).
	S-16	77.5- 78.0	55/6"						Dense, gray brown, weathered BASALT with zones of sandy clayey SILT.
	S-17	82.5- 83.3	40/6, 52/3"						Dense, gray brown, sandy to clayey SILT with scattered dense angular pebble size rock fragments (decomposed Basalt).
	S-18	87.5- 87.7	50/2"						Dense gray weathered BASALT.

TABLE III SUMMARY OF TEST DATA

0-406

Sheet 8 of 9.

Boring No.	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits			Other Tests	Sample Classification
					LL	PL	PI		
B-8	S-1	2.5-4.0	4,4,20						FILL: Gray brown SILT, rock, brick and concrete fragments.
	S-2	7.5-9.0	3,4,7	29	45	23	22		Firm, light brown, clayey SILT.
	S-3	12.5-14.0	2,3,4	31	39	24	15		Firm, mottled brown CLAY with scattered iron shot.
	S-4	17.5-19.0	3,4,5						Stiff, light brown, CLAY with scattered iron shot or weathered sand grains.
	S-5	22.5-24.0	2,3,4	33	50	24	26		Firm, light brown, clayey SILT with gray streaks.
	S-6	27.5-29.0	2,2,3	27	47	20	27		Firm, reddish brown CLAY with scattered weathered sand grains or rock fragments - Helvetia Formation ?
	S-7	32.5-34.0	3,6,7						Stiff, reddish brown CLAY with rounded to subrounded sand grains. Helvetia Formation?
	S-8	37.5-39.0	4,5,6	31	40	26	14		Stiff, light brown, silty CLAY with black streaks that are possibly organic. Fractures @ 70° with slickensides.
	S-9	42.5-44.0	7,9,10	19	36	18	18		Stiff, reddish brown CLAY with rounded fine to medium sand - Helvetia Formation.
	S-10	47.5-49.0	6,9,11	39	69	35	34		Stiff to hard, brick red CLAY with scattered rounded medium sand. Top several inches: disturbed. Bottom 3 inches sample: gray-green, stiff to hard, decomposed Basalt (CLAY).
	S-11	52.5-54.0	9,11,15						Hard, very mottled yellow brown and brown gray clayey SILT (decomposed Basalt) [illegible]

	S-10	47.5- 49.0	6,9,11	39	69	35	34		Stiff to hard, brick red **CLAY** with scattered rounded medium sand. Top several inches: disturbed. Bottom 3 inches sample: gray-green, stiff to hard, decomposed Basalt (CLAY).
	S-11	52.5- 54.0	9,11,15						Hard, very mottled yellow brown and brown gray, clayey **SILT** (decomposed Basalt).
	S-12	57.5- 57.9	50/5"						Dense, brown-gray, weathered **BASALT**.
	S-13	62.5- 62.7	50/2.5"						Dense, gray weathered **BASALT** (very hard drilling).
	S-14	67.5- 67.5+	50/0.5"						No sample recovery - probably dense BASALT.
B-8A	S-1	25.0- 27.5	Push	36 44					Firm, brown, clayey **SILT** with common 25-30° fractures. Slickensides appear on most fracture surfaces.
	S-2	27.5- 30.0	Push	30 46	47	24	23		Stiff, reddish brown to light brown, clayey **SILT** with scattered iron shot and iron stains.
	S-3	30.0- 32.5	Push	29					Very firm to stiff, mottled reddish brown **CLAY** with scattered fine to coarse weathered sand and occasional pebbles. Fractures at steep angles with occasional slickensides - Helvetia Formation (?).
	S-4	32.5- 35.0	Push	32	47	27	20		Stiff, brown, clayey **SILT**.

TABLE III SUMMARY OF TEST DATA

0-406

Sheet 9 of 9.

Boring No.	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits			Other Tests	Sample Classification
					LL	PL	PI		
BORING 8A CONTINUED									
	S-5	35.0-37.5	Push	37 24					Firm, mottled gray-brown to uniform brown, very clayey SILT or silty CLAY with random fractures & slickensides @ 45°. A 3-inch thick mottled gray weathered sand layer is present near the middle of the sample.
	S-6	37.5-40.0	Push	38 30	46	30	16		Stiff, brown, slightly fine sandy clayey SILT with iron nodules and iron stains.
	S-7	40.0-42.5	Push	27 40	35	21	14	T	Very stiff, yellow brown becoming reddish brown, clayey SILT.
	S-8	42.5-45.0	Push	42					Top 0.3 feet: Stiff, brick red CLAY with weathered SAND. Bottom 1.5 feet: Hard, mottled gray and brown, silty CLAY with angular rock fragments (decomposed Basalt). Common fractures @ 35-40° with slickensides.
	S-9	45.0-47.5	Push	38					Hard, mottled brown and gray with common iron stains, decomposed BASALT. Fractured @ 30-90° with slickensides.
	S-10	47.5-50.0	Push	39 33					Hard, brownish gray, crumbly friable decomposed BASALT. Fractures at 15-45° at 0.5 - 1 foot spacing with slickensides on some surfaces. Free water on some fractures.
B-9	S-1	2.5-4.0	5,5,7	29	29	24	5		Firm mottled brown gray and dark gray clayey SILT with scattered hard rock fragments - disturbed zone (decompos

		50.0	Push	33					Hard, brownish gray, crumbly friable decomposed BASALT. Fractures at 15-45° at 0.5 - 1 foot spacing with slickensides on some surfaces. Free water on some fractures.
B-9	S-1	2.5-4.0	5,5,7	29	29	24	5		Firm mottled brown gray and dark gray clayey SILT with scattered hard rock fragments - disturbed zone (decomposed Basalt.
	S-2	7.5-7.7	50/2"						Dense gray, vesicular BASALT.
									LEGEND: γ = In-place wet density in pounds per cubic foot. $\bar{R}$ = Consolidated-undrained triaxial test with pore pressure measurements. T = Torsion shear tests.

WATER LEVEL DEPTH IN FEET BELOW G

OBSERVATION WELL NO.		DEPTH IN FEET	DATE OF READING	4/10	4/14	4/18	4/22	4/29	5/6	5/14	5/19	5/
B-1	SH	55.5					42.3	DRY	43.5		43.5	43
	DP	83.0					82.3	83.0	82.8		DRY	82
B-2	SH	55.0				32.7	21.5	18.5	18.0		17.7	1
	DP	102.7				85.0	75.6	74.0	73.2		74.8	74
B-3	SH	47.5							7.0	7.6	7.7	
	DP	77.0			55.7	55.7	55.5		44.3		42.1	4
B-4	SH	44.5		15.1	15.3	15.5	15.6	15.5	15.8	15.8	15.7	15
	DP	98.5		70.7	68.6	69.4	69.7	70.6	70.1	71.3	71.5	71
	SI	88.0		56.5	59.0	58.3	57.7	58.7	57.4	56.9	58.7	5
B-5	SH	45.5		41.6	42.7	42.9	40.3	37.2	43.0		42.3	4
	DP	80.5		80.0	80.0	80.0	79.8	80.1	DRY		DRY	8
	SI	78.0		77.5	80.2	DRY	DRY	DRY	DRY	DRY	DRY	D
B-6	SH	37.5					DRY	16.3	13.8	13.4	13.5	1
	DP	57.5			53.7	54.5	54.4	54.3	54.6	54.7	54.7	54
B-7	SH	55.8			54.9	DRY	55.8	DRY	DRY	DRY	DRY	D
	DP	87.0		75.7	76.9	76.3	77.0	77.3	77.2	77.2	77.3	7
B-8	SH	45.0					33.0	14.9	14.4	14.3	14.4	14
	DP	68.1					68.1	DRY	DRY	DRY	DRY	D
B-9		7.7					DRY	DRY	DRY	DRY	DRY	D

LEGEND

B-1 ← BORING LOCATION AT WHICH OBSERVATION WELLS INSTALL

SH ← SH, DP, SI – SYMBOLS INDICATE SHALLOW OBSERVAT
DEEP OBSERVATION WELL, AND SLOPE INDICATOR

H IN FEET BELOW GROUND SURFACE

5/6	5/14	5/19	5/23	5/26	6/9	6/25	7/25			
43.5		43.5	43.3	43.3	TRACE	42.6	42.2			
82.8		DRY	82.7	82.9	73.0	81.7	83.7			
18.0		17.7	17.7	17.7	18.1	18.3	17.9			
73.2		74.8	74.7	74.8	74.2	—	—			
7.0	7.6	7.7	7.4	7.6	5.0	7.3	7.5			
44.3		42.1	47.1	50.8	46.9	45.6	—			
15.8	15.8	15.7	15.7	15.8	15.8	14.7	10.9			
70.1	71.3	71.5	71.3	71.5	71.7	69.9	—			
57.4	56.9	58.7	58.2	57.5	57.8	49.1	3.5			
43.0		42.3	42.8	43.4	43.7	38.7	44.6			
DRY		DRY	80.0	80.0	80.0	TRACE	80.0			
DRY	DRY	DRY	DRY			80.7	DRY			
13.8	13.4	13.5	13.6	13.6	13.3	—	12.1			
54.6	54.7	54.7	54.4	54.4	54.4	—	54.4			
DRY	DRY	DRY	DRY	DRY	—	—	55.2			
77.2	77.2	77.3	76.9	77.0	—	—	77.3			
14.4	14.3	14.4	14.2	14.2	14.5	13.7	14.2			
DRY	DRY	DRY	DRY	DRY	DRY	TRACE	67.8			
DRY	DRY	DRY	DRY	TRACE	TRACE	TRACE	7.8			

RVATION WELLS INSTALLED

CATE SHALLOW OBSERVATION WELL,
AND SLOPE INDICATOR CASING

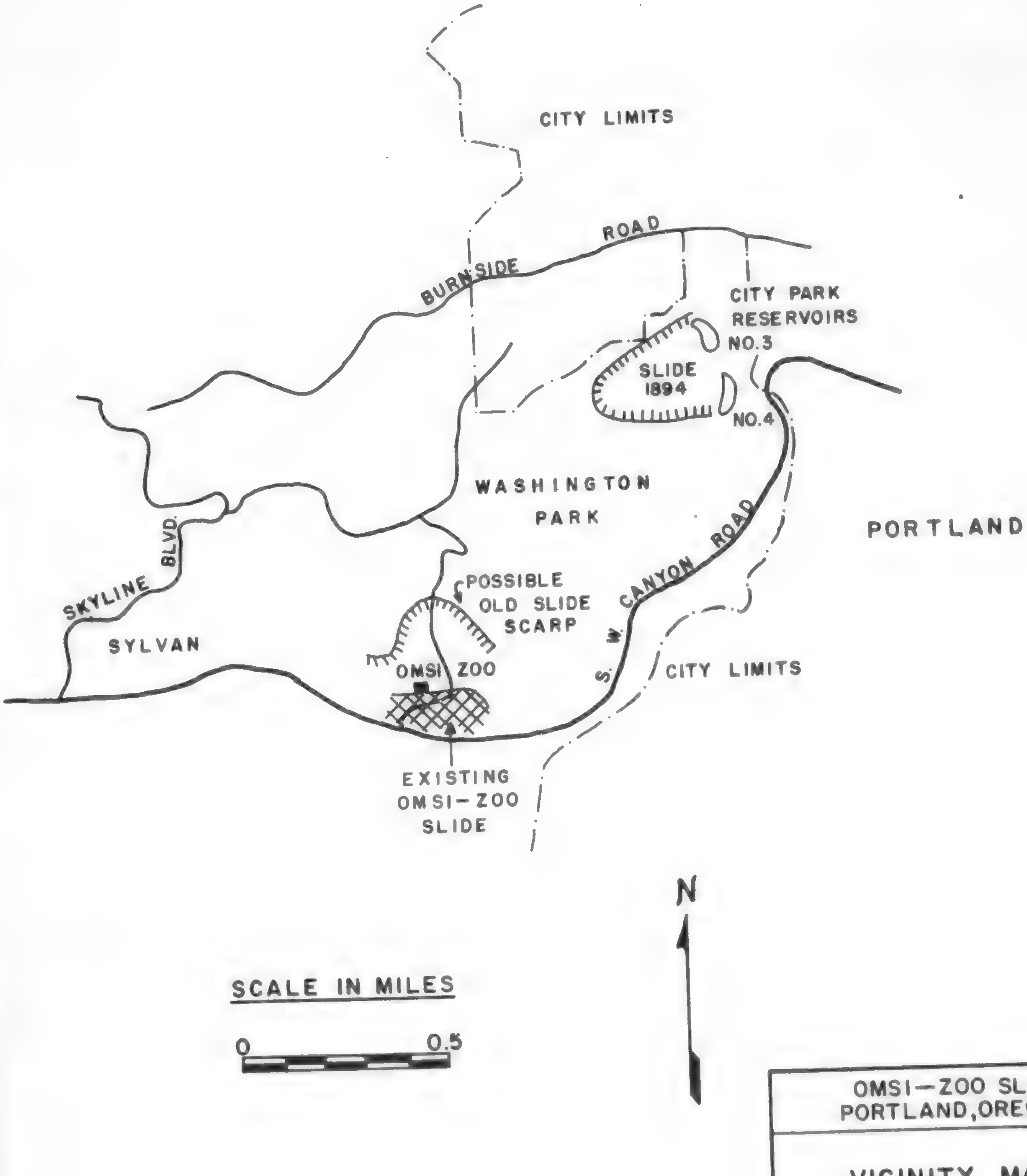
OMSI – ZOO SLIDE
PORTLAND, OREGON

SUMMARY OF WATER
LEVEL READINGS

0-406
MAY, 1969

SHANNON & WILON, INC.
PORTLAND, OREGON

TABLE IV


CITY LIMITS
BURNSIDE ROAD
CITY PARK RESERVOIRS
NO.3
SLIDE 1894
NO.4
WASHINGTON PARK
PORTLAND
SKYLINE BLVD.
POSSIBLE OLD SLIDE SCARP
S. W. CANYON ROAD
SYLVAN
OMSI
ZOO
CITY LIMITS
EXISTING OMSI–ZOO SLIDE
N
SCALE IN MILES
0
0.5

OMSI–ZOO SLIDE
PORTLAND, OREGON

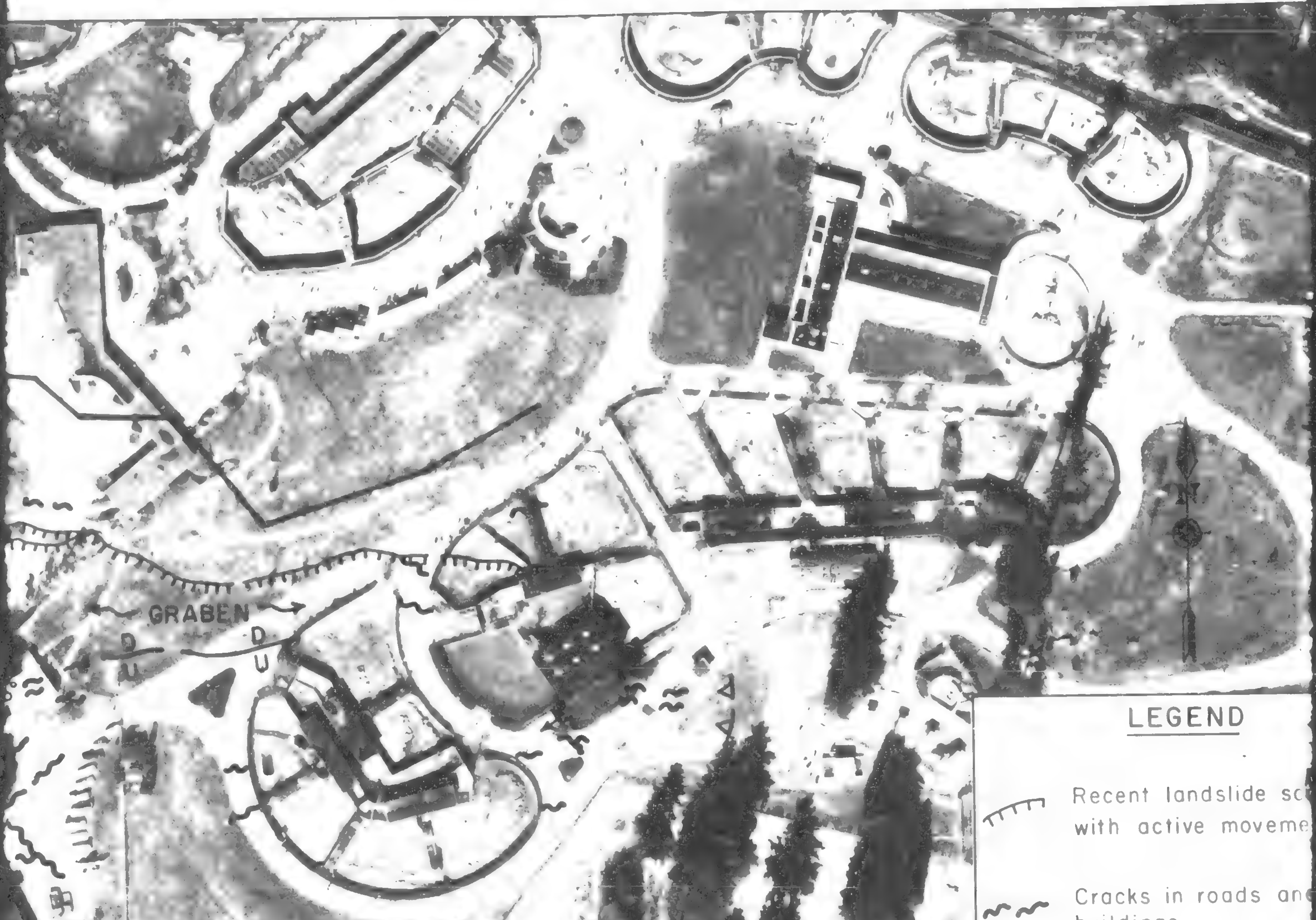
VICINITY MAP

0–406 MAY, 1969

SHANNON & WILSON, INC.
PORTLAND, OREGON

Fig. 1

Drainage Curta
OMSI
2-3°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Recent landslide sc
with active moveme
Cracks in roads an
buildings.
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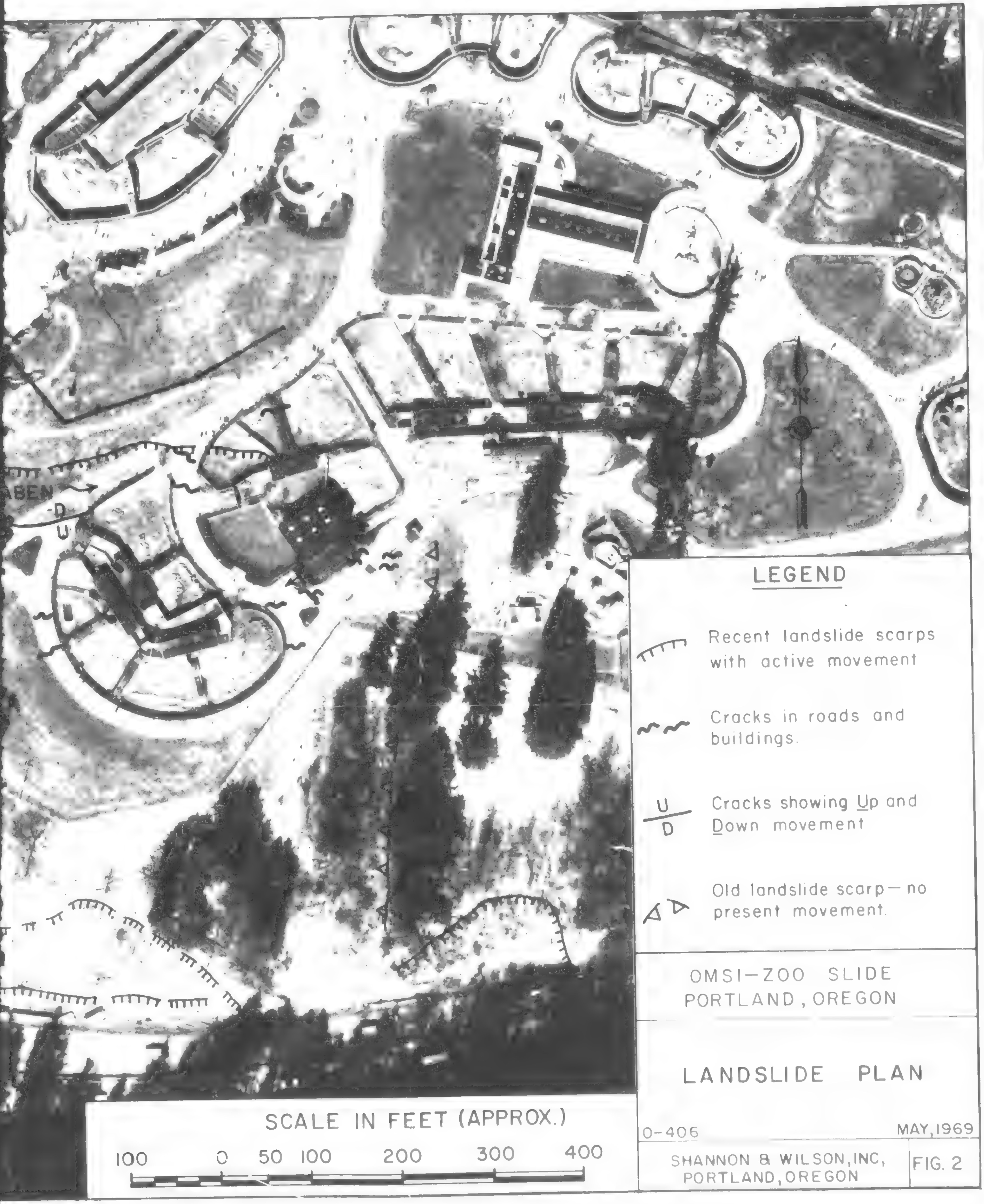
Cracks showing Up a
Down movement
Old landslide scarp-
present movement
OMSI–ZOO SLIDE
PORTLAND, OREGON
LANDSLIDE PL
0-406
SHANNON & WILSON, INC.
PORTLAND, OREGON
SCALE IN FEET (APPROX.)
100
0
50
100
200
300
400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U
LEGEND
Recent landslide scarps with active movement
Cracks in roads and buildings.
U
D
Cracks showing Up and Down movement
Old landslide scarp — no present movement.
N
SCALE IN FEET (APPROX.)
100
0
50
100
200
300
400

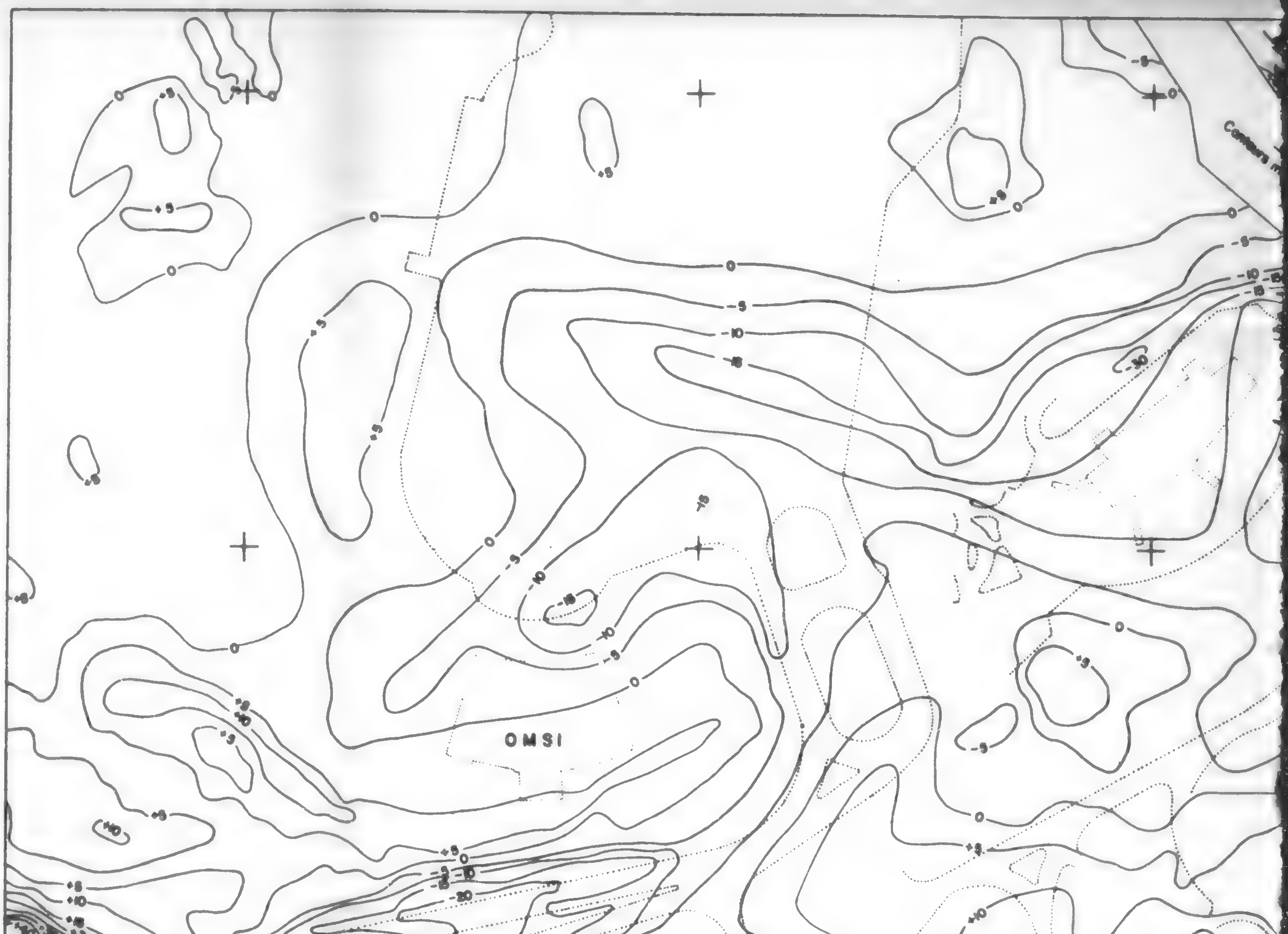
OMSI–ZOO SLIDE
PORTLAND, OREGON

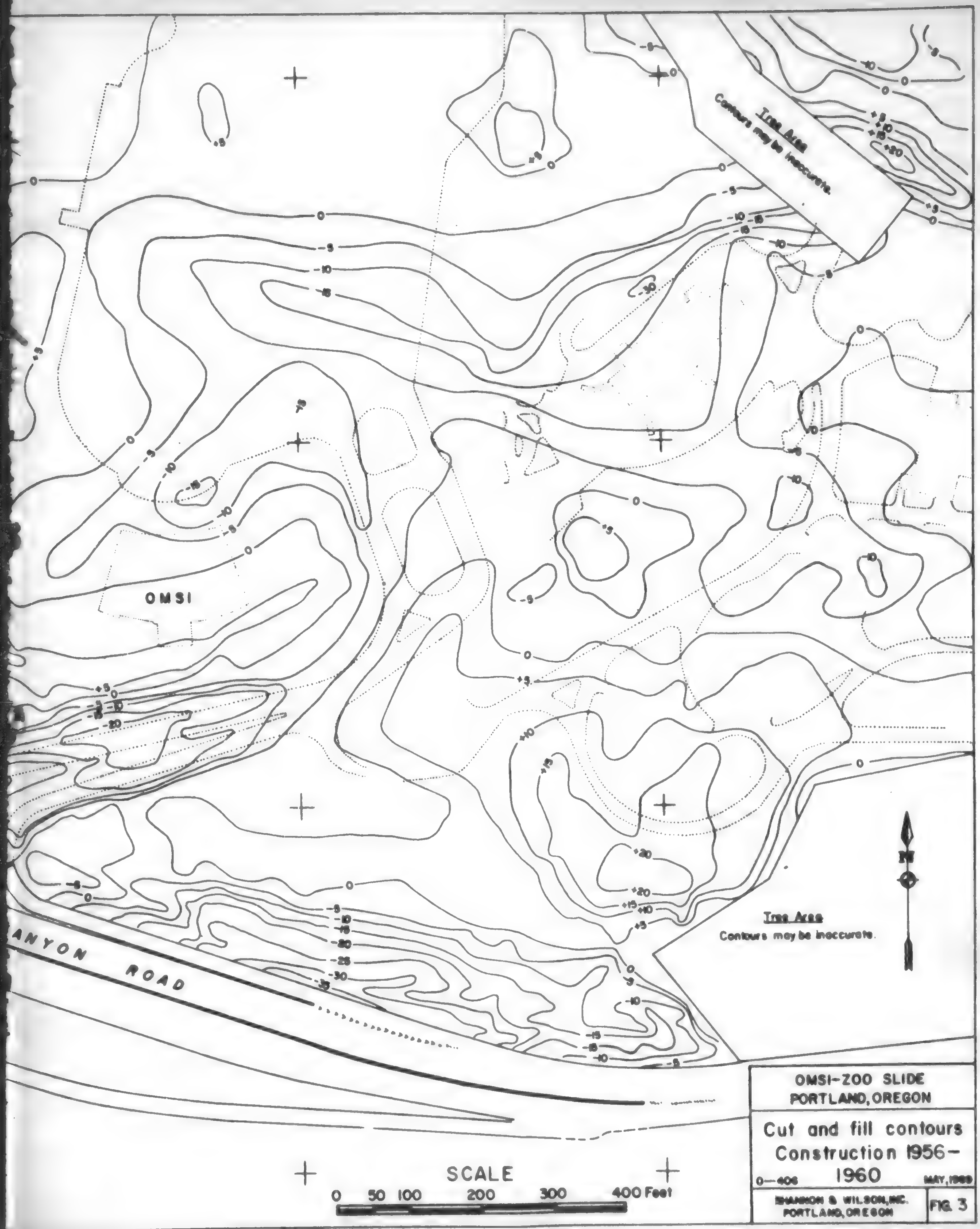
LANDSLIDE PLAN

0-406 MAY, 1969

SHANNON & WILSON, INC,
PORTLAND, OREGON

FIG. 2


OMSI
S.W. CANYON ROAD
SCALE
0 50 100 200 300 400 Feet
Contours
Contours
0
+5
-5
-10
-15
-20
-25
-30
+10
+15
+20


Tree Area
Contours may be inaccurate.
OMSI
ANYON ROAD
Tree Area
Contours may be inaccurate.
N
SCALE
0 50 100 200 300 400 Feet

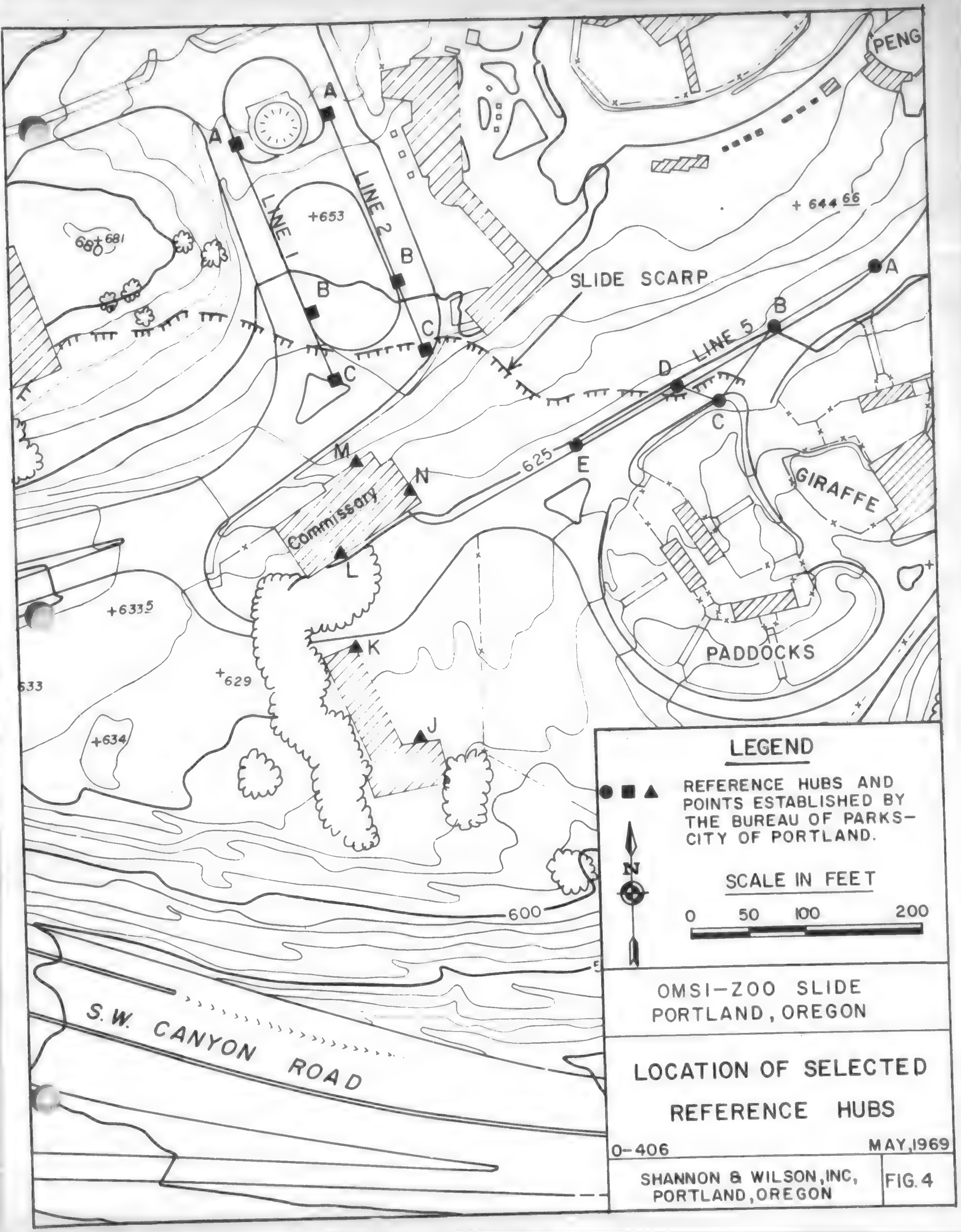
OMSI-ZOO SLIDE
PORTLAND, OREGON

Cut and fill contours
Construction 1956-
1960

0-406 MAY, 1969

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 3


PENG
A
A
LINE 1
LINE 2
+653
680
+681
B
B
C
C
+644 66
SLIDE SCARP
A
B
LINE 5
D
C
E
625
M
N
Commissary
L
K
J
GIRAFFE
PADDOCKS
+633.5
633
+629
+634
600
S.W. CANYON ROAD
LEGEND
● ■ ▲ REFERENCE HUBS AND POINTS ESTABLISHED BY THE BUREAU OF PARKS-CITY OF PORTLAND.
N
SCALE IN FEET
0
50
100
200

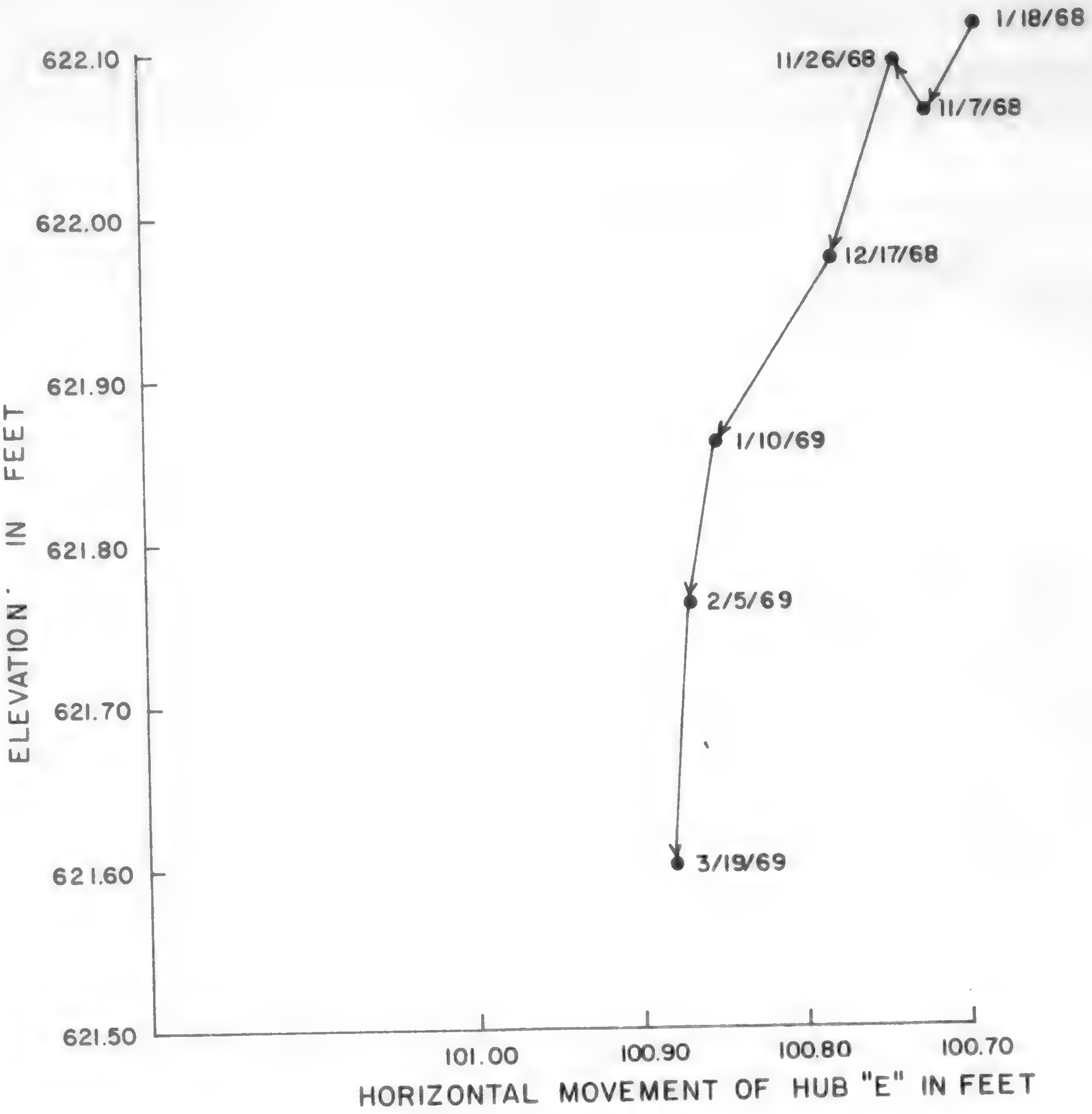
OMSI-ZOO SLIDE
PORTLAND, OREGON

LOCATION OF SELECTED REFERENCE HUBS

0-406 MAY, 1969

SHANNON & WILSON, INC,
PORTLAND, OREGON

FIG. 4



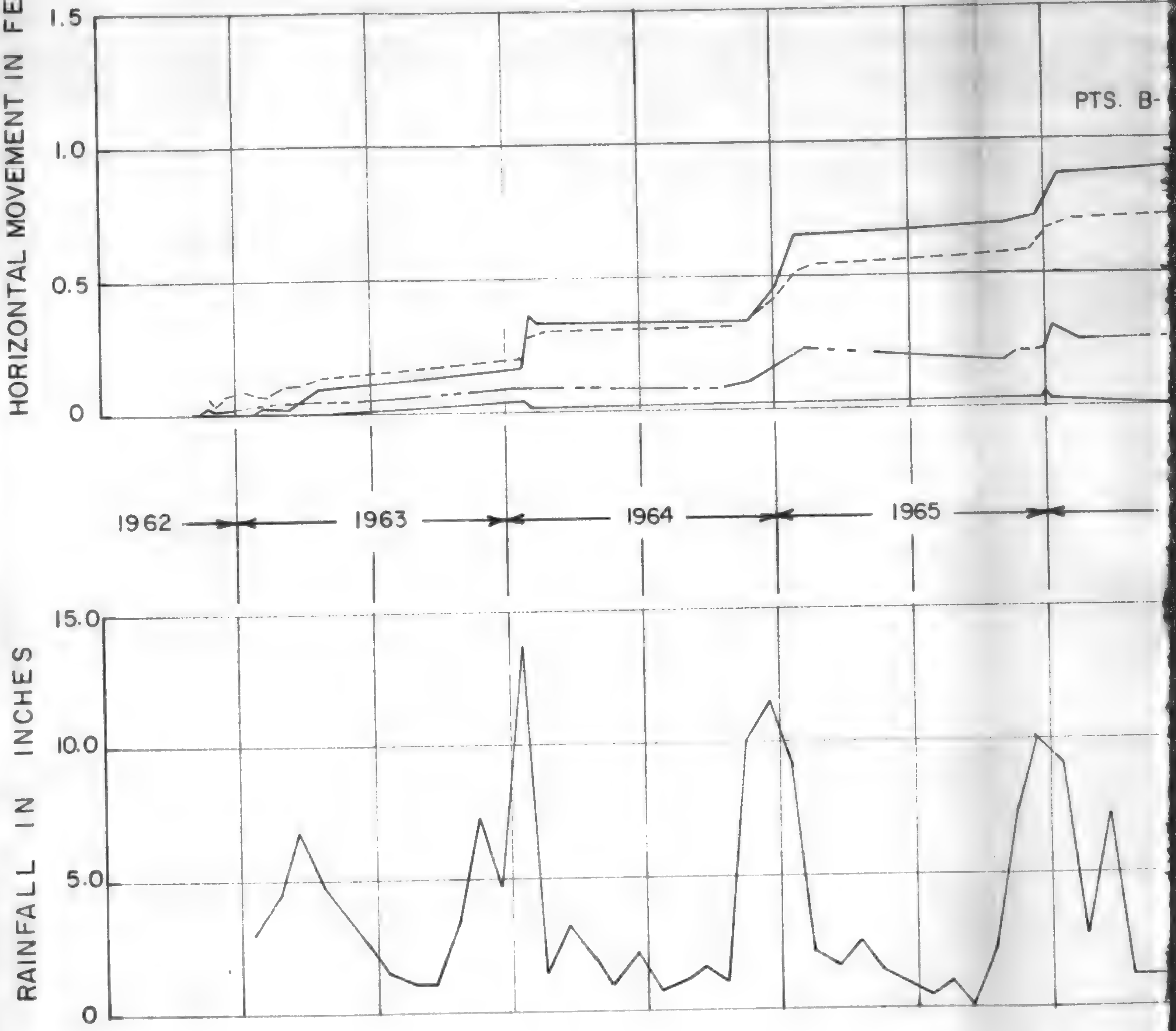
OMSI–ZOO SLIDE
PORTLAND, OREGON

HUB "E": VECTORS OF MOVEMENT

0-406 MAY, 1969

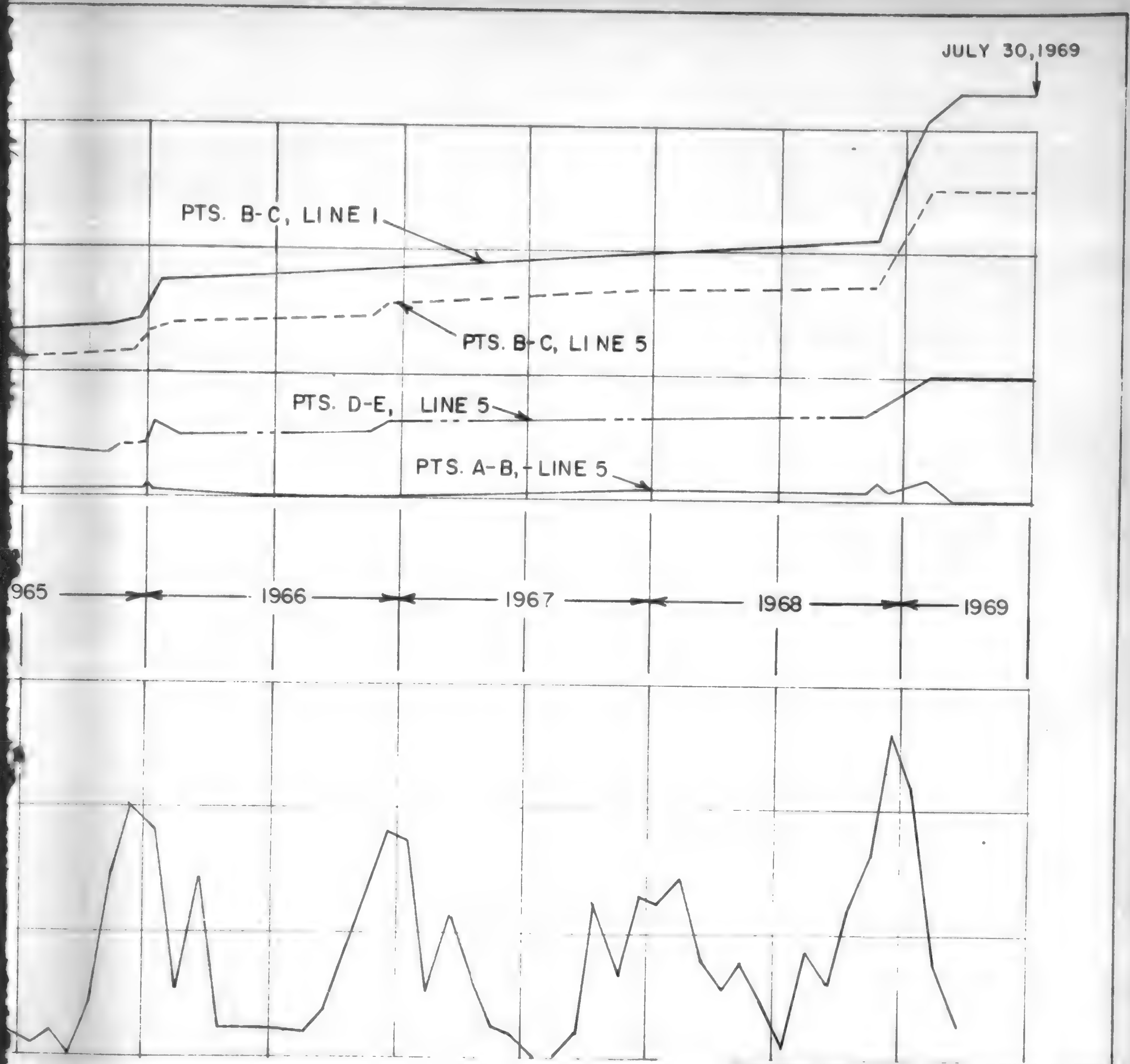
SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 5



NOTES: 1. HORIZONTAL MOVEMENT IN
BUREAU OF PARKS SURVE

2. PRECIPITATION DATA (O
WEATHER BUREAU AT THE
INTERNATIONAL AIRPOR



ONTAL MOVEMENT INFORMATION FROM
AU OF PARKS SURVEY DATA

PITATION DATA OBTAINED BY U.S.
HER BUREAU AT THE PORTLAND
RNATIONAL AIRPORT.

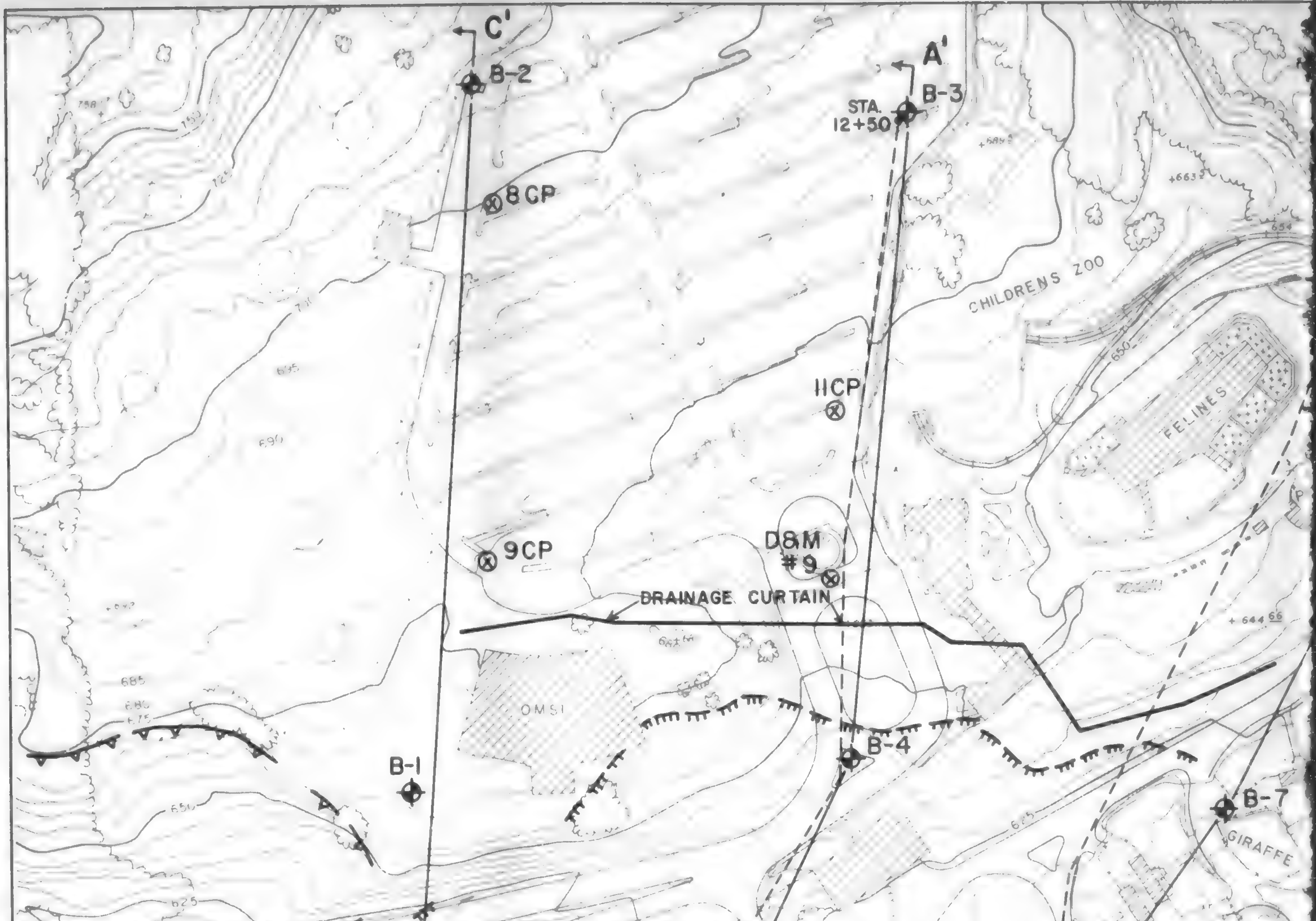
OMSI - ZOO SLIDE
PORTLAND, OREGON

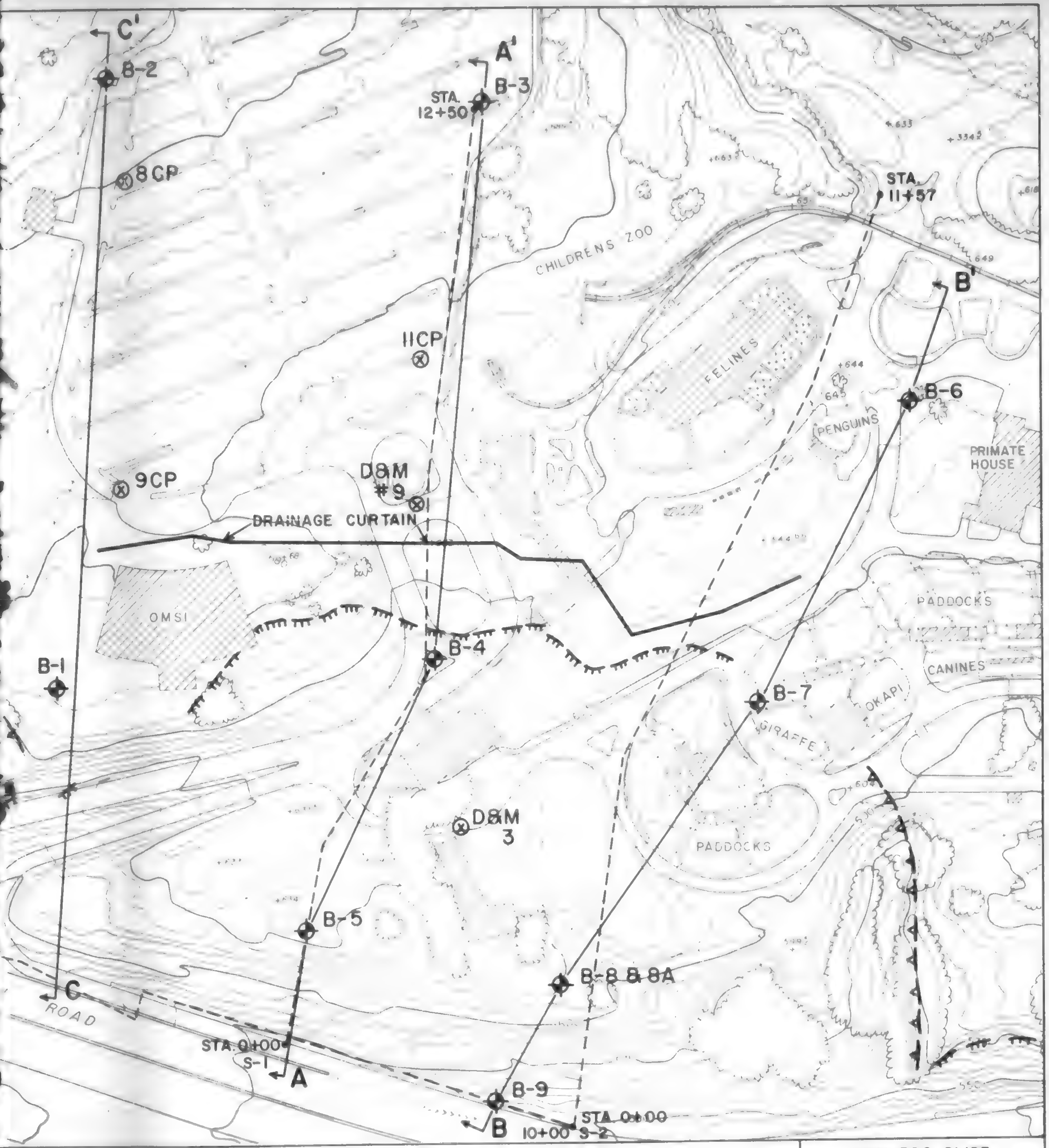
RELATIONSHIP OF
SLIDE MOVEMENT
AND
RAINFALL INTENSITY

0-406 MAY, 1969

SHANNON & WILSON INC.
PORTLAND, OREGON

FIG. 6


C'
B-2
A'
STA. 12+50
B-3
8CP
CHILDRENS ZOO
FELINES
11CP
D&M #9
9CP
DRAINAGE CURTAIN
OMSI
B-1
B-4
B-7
GIRAFFE
D&M 3
PADDOCKS
STA. 0+00
SS-3
B-5
CANYON ROAD
C
B-8 & 8A
STA. 0+00
S-1
A
B-9
B
STA. 0+00
10+00 S-2
LEGEND
B-1 BORINGS BY SHANNON & WILSON - APR., MAY, 1969
11CP D&M BORINGS MADE BY OTHERS - 1956 - 1960
ACTIVE SCARP
OLD INACTIVE SCARP
GEOLOGIC SECTIONS
SEISMIC LINES MADE BY GEO-RECON., INC., SEATTLE, WASH.
N
SCALE IN FEET
0 50 100 200 300


C'
B-2
A'
STA.
12+50
B-3
8CP
STA.
11+57
CHILDRENS ZOO
B'
11CP
FELINES
B-6
PENGUINS
PRIMATE
HOUSE
D&M
#9
9CP
DRAINAGE CURTAIN
OMSI
PADDOCKS
B-4
CANINES
B-1
B-7
OKAPI
GIRAFFE
D&M
3
PADDOCKS
B-5
B-8 & 8A
C
ROAD
STA. 0+00
S-1
A
B-9
B
10+00
STA. 0+00
S-2

GEND
NON & WILSON - APR., MAY, 1969
OTHERS - 1956 - 1960
P
S
BY GEO-RECON., INC., SEATTLE, WASH.

SCALE IN FEET
0 50 100 200 300

OMSI-ZOO SLIDE
PORTLAND, OREGON

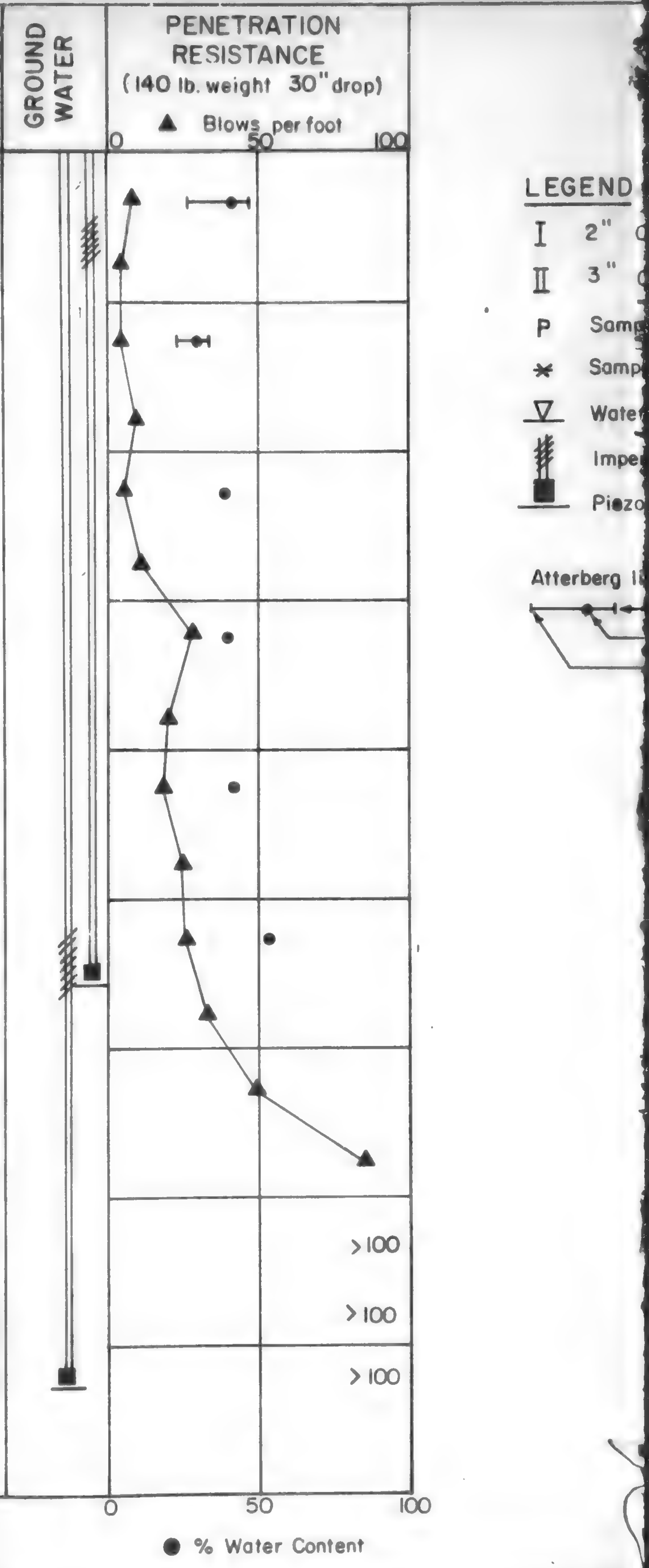
PLAN OF EXPLORATION

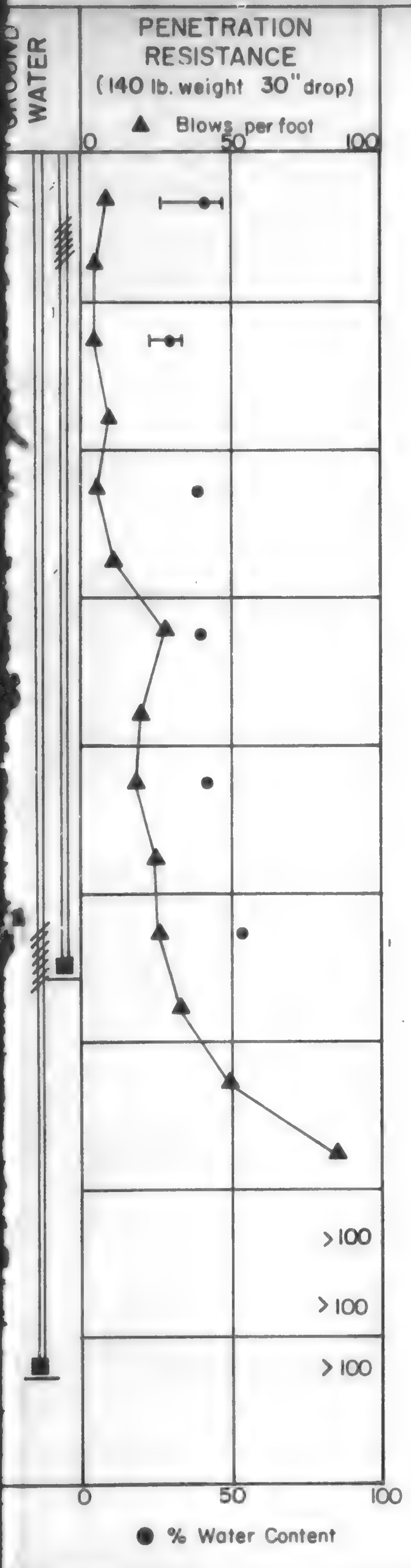
0-406
MAY, 1969

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 7

UNIFIED SOIL CLASSIF.	SOIL DESCRIPTION Surface Elevation 665'	DEPTH-feet	SAMPLES
	Fill: Firm, mottled rust brown, clayey SILT and silty CLAY with scattered angular rock fragments.	0	1 I 2 I
	Soft, brown gray, clayey SILT. (PORTLAND SILT FORMATION ?)	9	3 I
	Decomposed basalt: Firm, mottled rust brown, clayey SILT with scattered hard rock fragments.	17	4 I 5 I 6 I
	Decomposed basalt: Hard to stiff, mottled rust brown and gray, clayey SILT becoming sandy SILT and very fine SAND at 52.5 — 54.0 ft. vesicles and veins are filled with a yellow mineraloid.	30	7 I 8 I 9 I 10 I 11 I 12 I
	Weathered basalt: Very hard to dense, brown to gray, friable, crumbly, becomes very dense at 82 ft. yellow mineraloid in vesicles @ 72 ft. (COLUMBIA RIVER BASALT FORMATION)	60	13 I 14 I 15 I 16 I 17 I
	Bottom of Boring	83	





LEGEND

- I 2" O.D. split spoon sample
- II 3" O.D. thin-wall sample
- P Samples pushed
- ✱ Sample not recovered
- ▽ Water level
- Impervious seal
- ■ Piezometer

Atterberg limits
- Liquid limit
- Natural water content
- Plastic limit

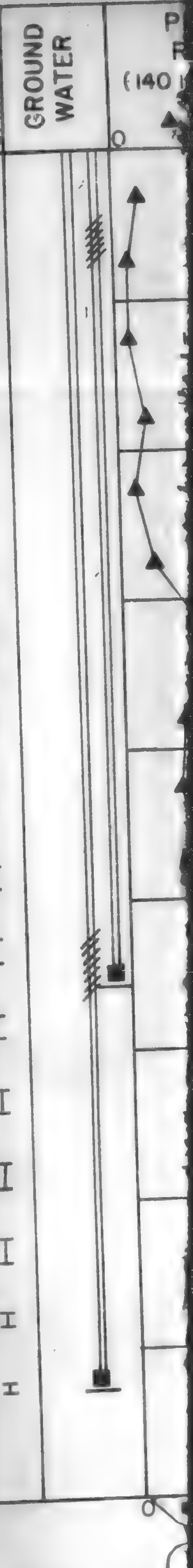
SLIDE INVESTIGATION
OMSI–ZOO COMPLEX
PORTLAND, OREGON

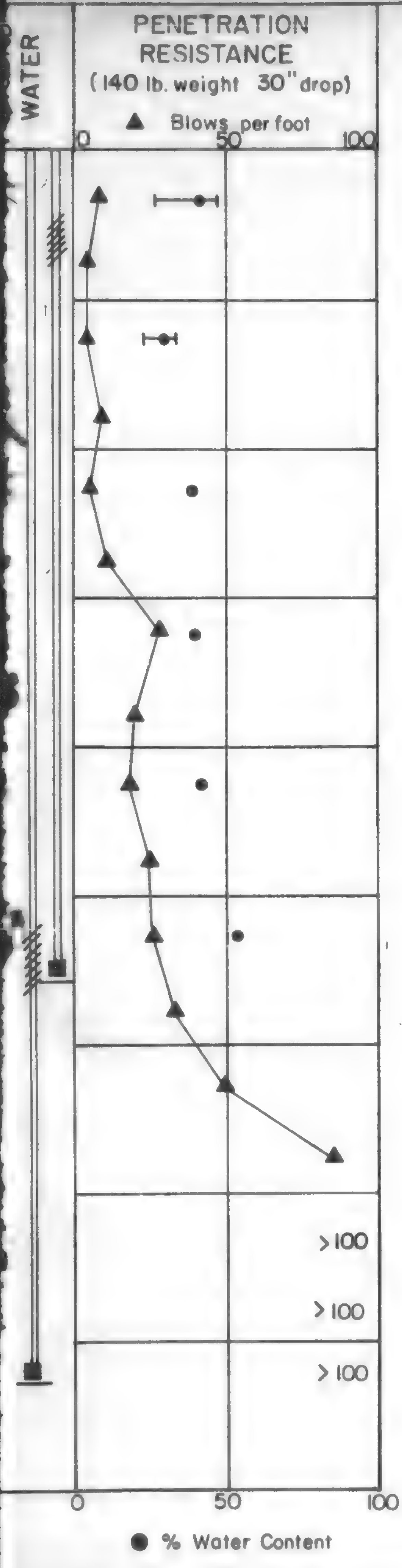
LOG OF BORING
BORING NO. B-1

0-406 APR. 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.

FIG. 8

UNIFIED SOIL CLASSIF.	SOIL DESCRIPTION Surface Elevation 665'	DEPTH-feet	SAMPLES
	Fill: Firm, mottled rust brown, clayey SILT and silty CLAY with scattered angular rock fragments.	0	1 2
	Soft, brown gray, clayey SILT. (PORTLAND SILT FORMATION?)	9	3
	Decomposed basalt: Firm, mottled rust brown, clayey SILT with scattered hard rock fragments.	17	4 5 6
	Decomposed basalt: Hard to stiff, mottled rust brown and gray, clayey SILT becoming sandy SILT and very fine SAND at 52.5 — 54.0 ft. vesicles and veins are filled with a yellow mineraloid.	30	7 8 9 10 11 12
	Weathered basalt: Very hard to dense, brown to gray, friable, crumbly, becomes very dense at 82 ft. yellow mineraloid in vesicles @ 72 ft. (COLUMBIA RIVER BASALT FORMATION)	60	13 14 15 16
	Bottom of Boring	83	17





LEGEND

- I 2" O.D. split spoon sample
- II 3" O.D. thin-wall sample
- P Samples pushed
- ✶ Sample not recovered
- ▽ Water level
- Impervious seal
- Piezometer

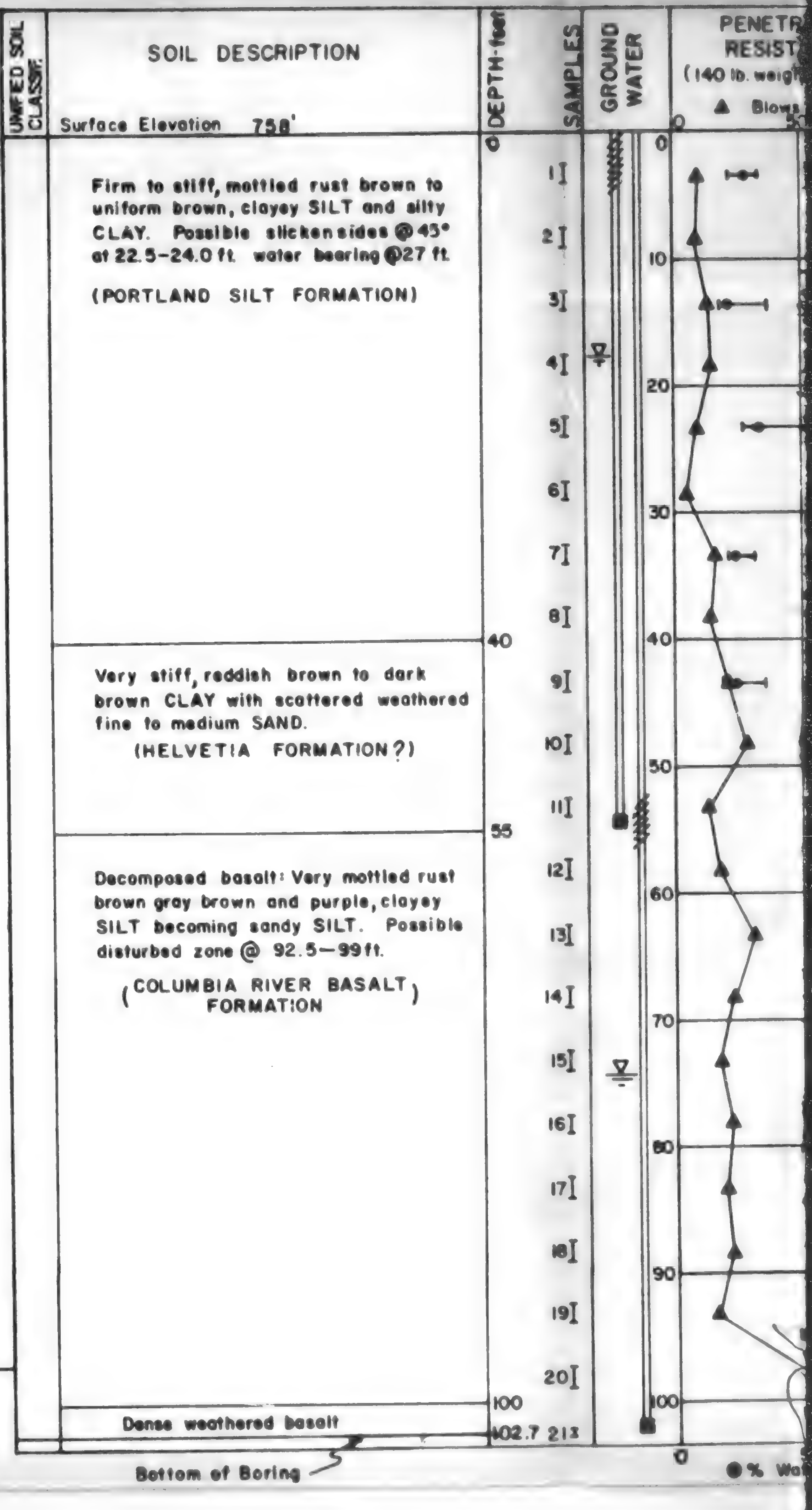
Atterberg limits
- Liquid limit
- Natural water content
- Plastic limit

SLIDE INVESTIGATION
OMSI–ZOO COMPLEX
PORTLAND, OREGON

LOG OF BORING
BORING NO. B-1

0-406 APR. 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.

FIG. 8



Surface Elevation 758'

Firm to stiff, mottled rust brown to uniform brown, clayey SILT and silty CLAY. Possible slickensides @ 43° at 22.5–24.0 ft. water bearing @ 27 ft.

(PORTLAND SILT FORMATION)

Very stiff, reddish brown to dark brown CLAY with scattered weathered fine to medium SAND.

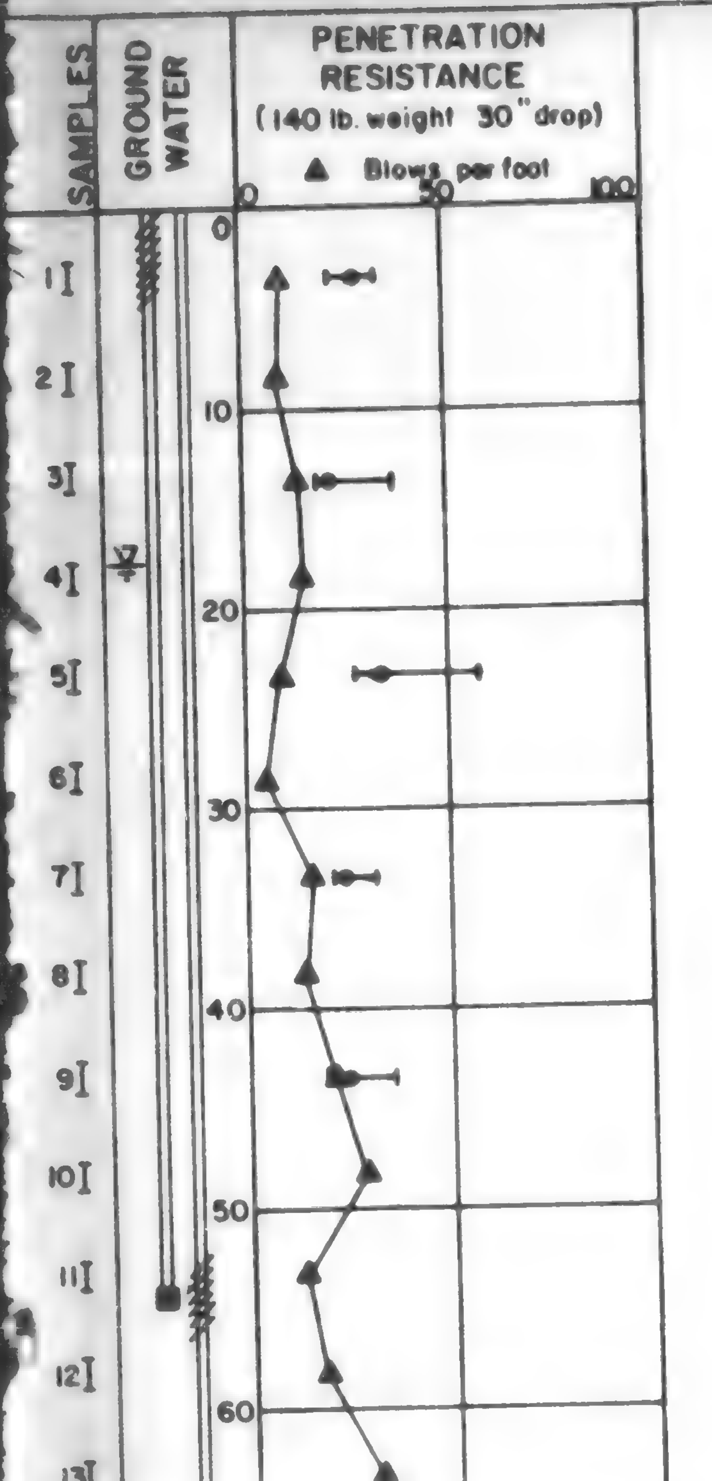
(HELVETIA FORMATION?)

Decomposed basalt: Very mottled rust brown gray brown and purple, clayey SILT becoming sandy SILT. Possible disturbed zone @ 92.5—99 ft.

(COLUMBIA RIVER BASALT FORMATION)

Dense weathered basalt

Bottom of Boring



LEGEND

I 2" O.D. split spoon sample
II 3" O.D. thin-wall sample
P Samples pushed
✱ Sample not recovered
∇ Water level
Impervious seal
Piezometer

Atterberg limits
Liquid limit
Natural water content
Plastic limit

SLIDE INVESTIGATION
OMSI–ZOO COMPLEX
PORTLAND, OREGON

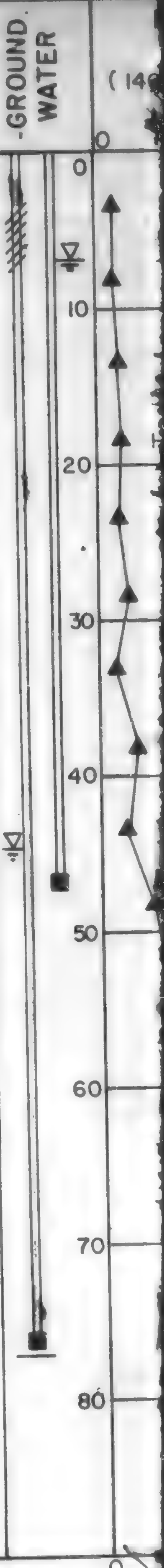
LOG OF BORING

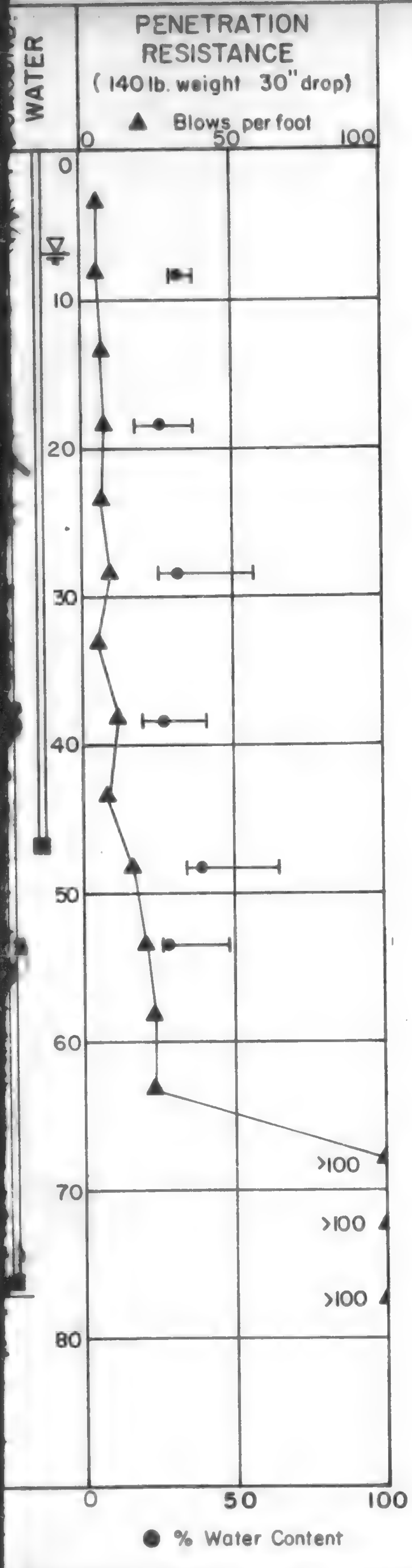
BORING NO. B-2

0-406 APR., 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.

FIG. 9

UNIFIED SOIL CLASSIF.	SOIL DESCRIPTION Surface Elevation 686'	DEPTH-feet	SAMPLES
	Firm to stiff, mottled rust brown to uniform brown, clayey SILT and silty CLAY with scattered iron shot. Locally micaceous. Possible slickensides @ 27.5 ft. (PORTLAND SILT FORMATION)	0	1 2 3 4 5 6 7 8 9 10
	Very stiff, mottled brown CLAY with scattered weathered sand & pebbles. (HELVETIA FORMATION?)	50	11
	Decomposed basalt: Very stiff to hard, clayey SILT with scattered rock fragments.	56	12 13
	Weathered basalt: Dense, brown and gray, crystalline. (COLUMBIA RIVER BASALT FORMATION)	65	14 15
	Bottom of Boring	77.8	16





LEGEND

- I 2" O.D. split spoon sample
- II 3" O.D. thin-wall sample
- P Samples pushed
- ✱ Sample not recovered
- ▽ Water level
- Impervious seal
- Piezometer

Atterberg limits
- Liquid limit
- Natural water content
- Plastic limit

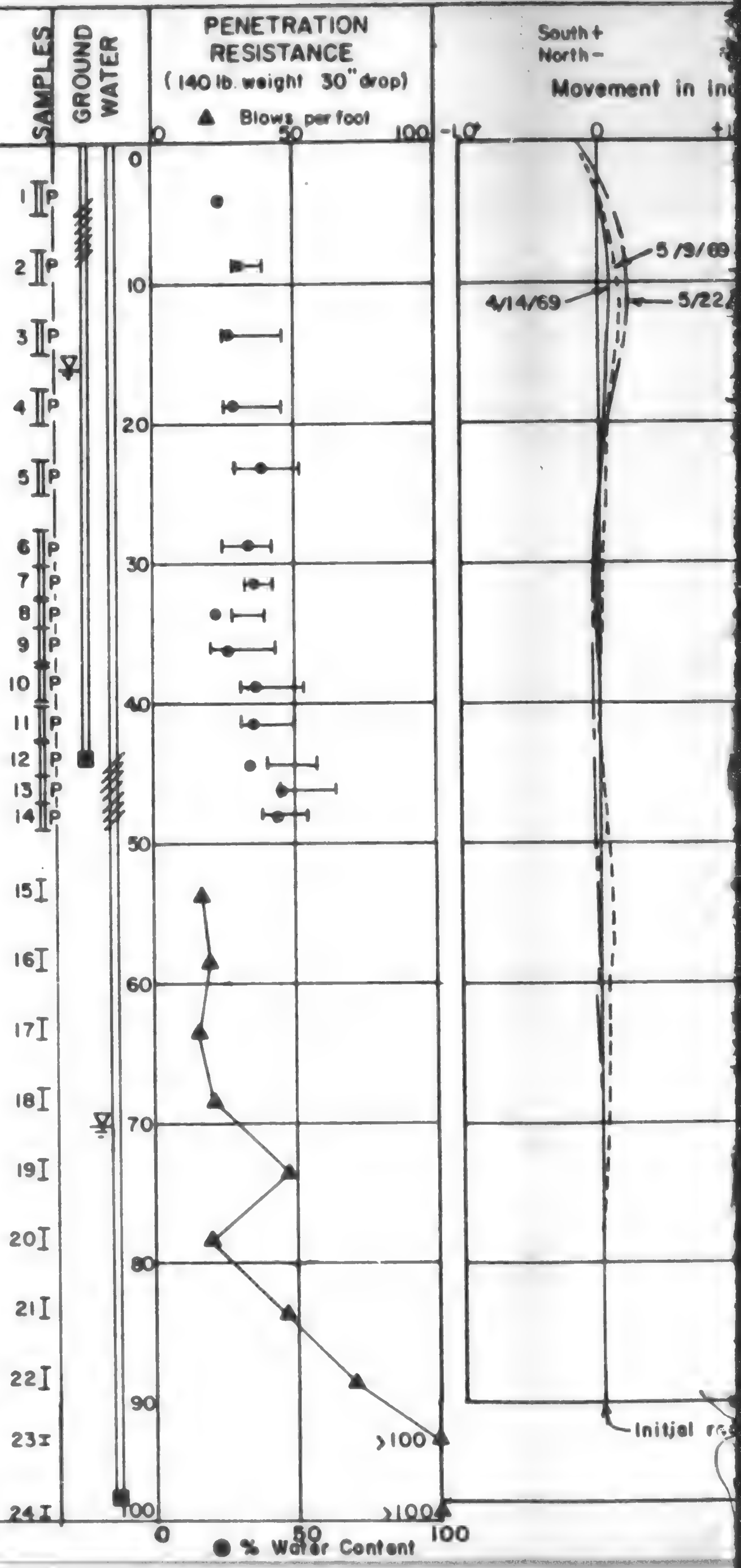
SLIDE INVESTIGATION
OMSI–ZOO COMPLEX
PORTLAND, OREGON

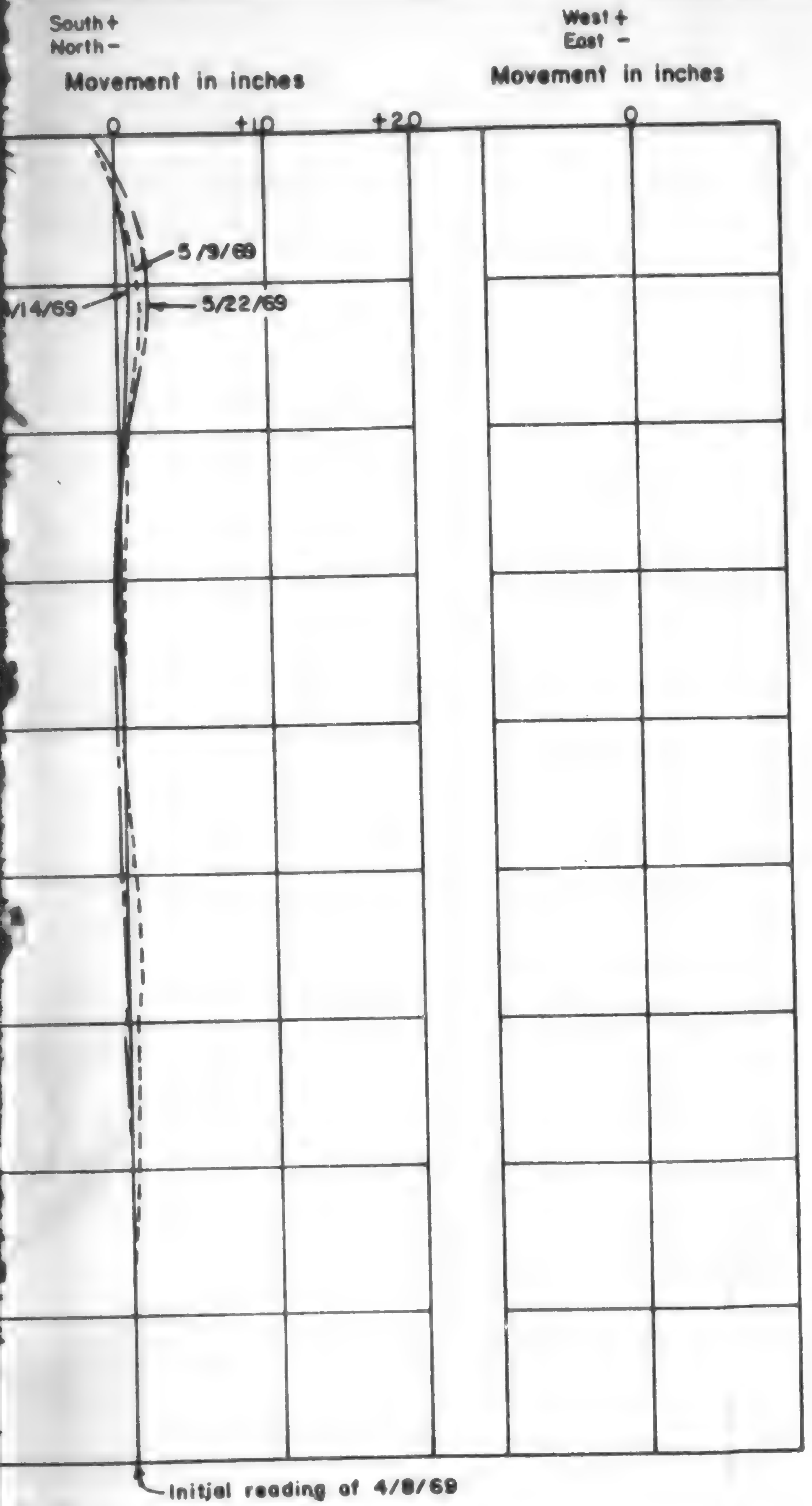
LOG OF BORING
BORING NO. B-3

0-406 APR., 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.

FIG 10

UNIFIED SOIL CLASSIF.	SOIL DESCRIPTION Surface Elevation 642'	DEPTH-feet
	Very firm to stiff, mottled brown, sandy SILT and silty CLAY. Disturbed zone top is @ 12.5 ft. and extends to bottom of unit. Unit is locally very mottled and multicolored from green to brown, fractures, 15-60°, with slickensides. (PORTLAND SILT FORMATION)	0
	Decomposed basalt: Firm to stiff to hard, very mottled reddish yellow and gray-brown, clayey SILT and silty CLAY with scattered hard rock fragments. Common fractures 40-70° and slickensides throughout. (COLUMBIA RIVER BASALT FORMATION)	42
	Dense, gray brown and reddish brown vesicular, weathered basalt. Fractured.	88.5
	Bottom of Boring	98.4





LEGEND

I 2" O.D. split spoon sample

II 3" O.D. thin-wall sample

P Samples pushed

* Sample not recovered

▽ Water level

Impervious seal

Piezometer

Atterberg limits

- Liquid limit
- Natural water content
- Plastic limit

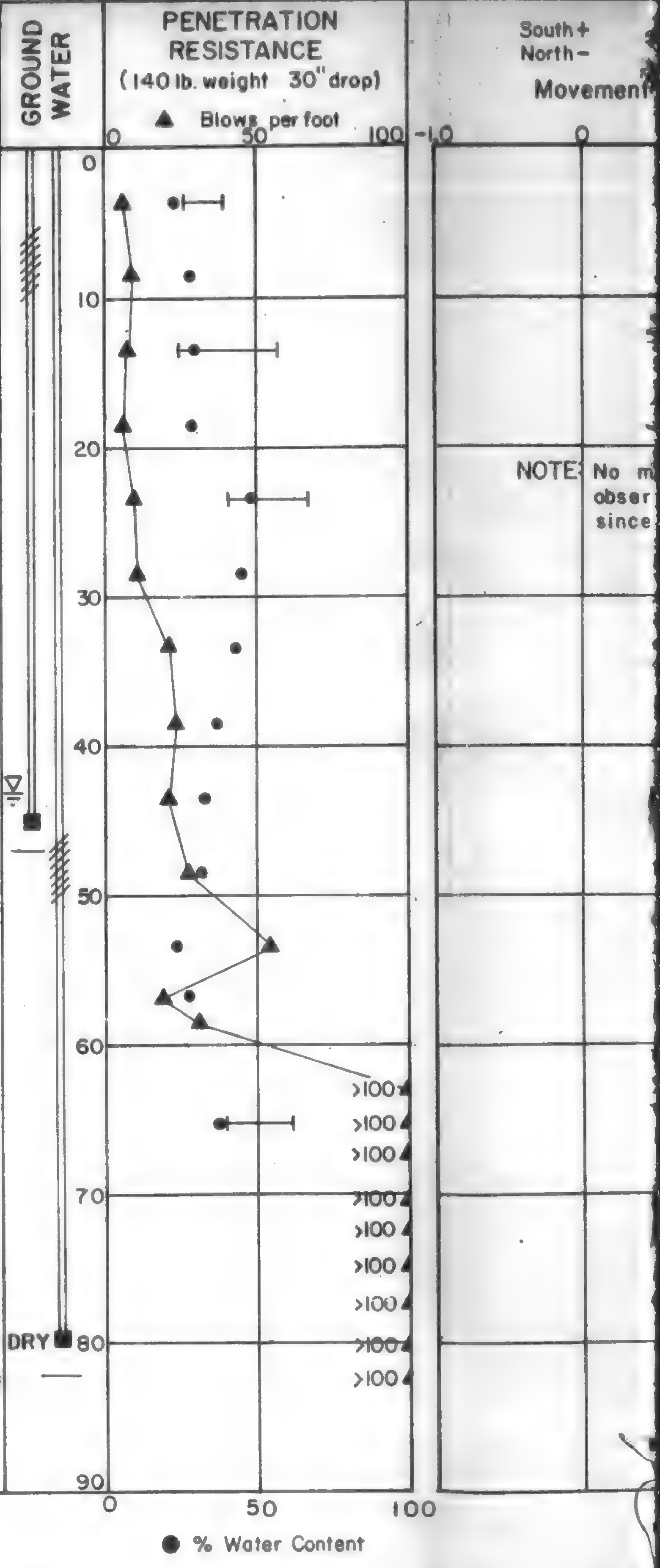
SLIDE INVESTIGATION
OMSI-ZOO COMPLEX
PORTLAND, OREGON

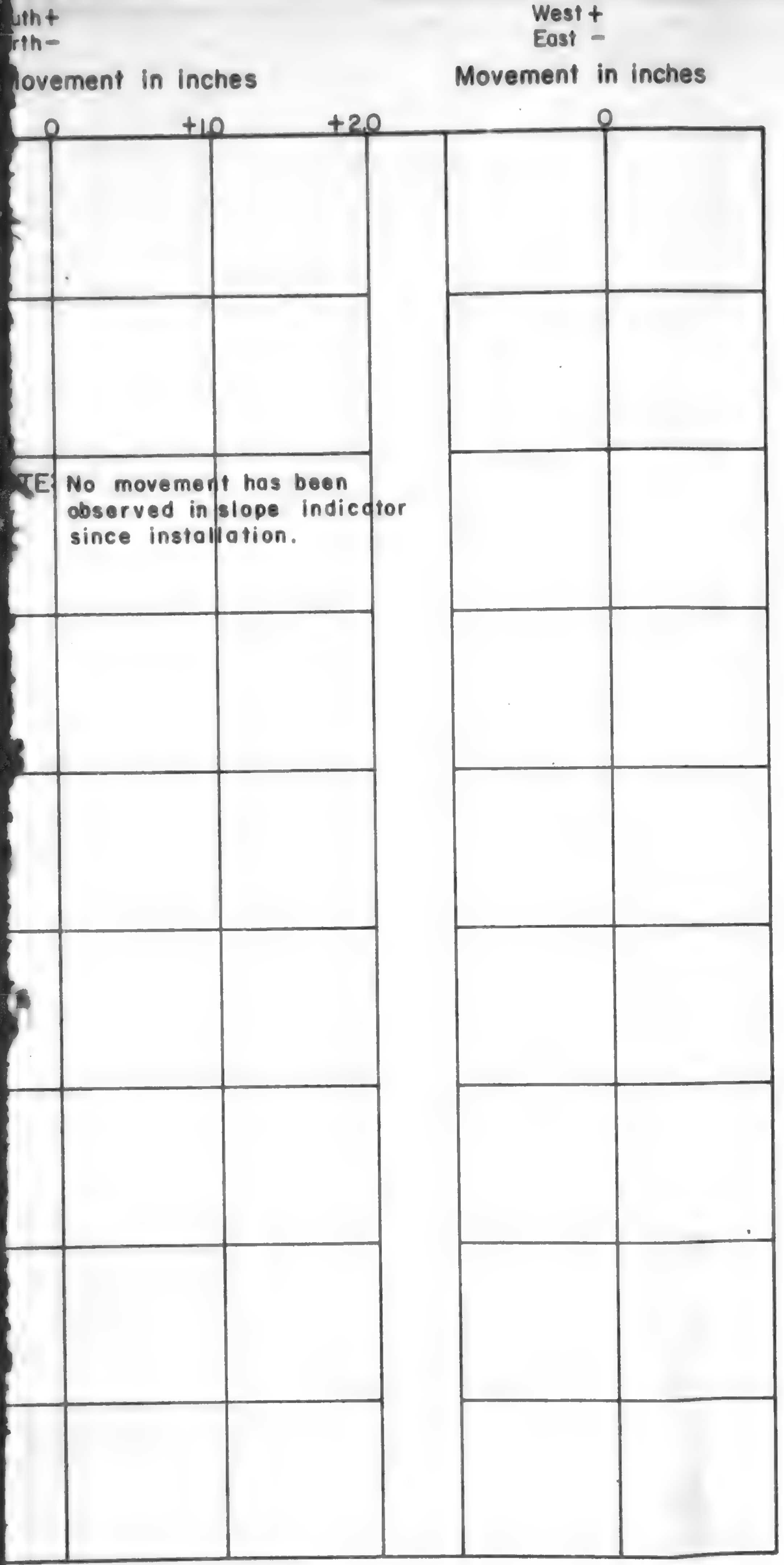
LOG OF BORING
BORING NO. B-4

0-406 APRIL, 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.

FIG. 11

UNIFIED SOIL CLASSIF.	SOIL DESCRIPTION Surface Elevation 627'	DEPTH-feet	SAMPLES
	Firm, mottled rust brown, slightly clayey SILT becoming very clayey SILT. Micaceous. (PORTLAND SILT FORMATION)	0	1 I 2 I 3 I 4 I
	Decomposed basalt: Firm to stiff, very mottled rust brown, clayey SILT with scattered yellow mineraloids.	20	5 I 6 I 7 I
	Decomposed basalt: Hard, mottled brownish, clayey SILT becoming sandy SILT with scattered dense angular rock fragments. Moisture increased in the interval 47.5-54.0' ft. Disturbed zones present in the interval 56.0-63.5ft	35	8 I 9 I 10 I 11 I 12 I 13 I 14 I
	Dense, mottled brown and gray, weathered vesicular basalt. (COLUMBIA RIVER BASALT FORMATION)	65	15 I 16 I 17 I 18 I 19 I 20 I 21 I
	Bottom of Boring	82.6	22 I *





TE: No movement has been observed in slope indicator since installation.

LEGEND

- I 2" O.D. split spoon sample
- II 3" O.D. thin-wall sample
- P Samples pushed
- ✱ Sample not recovered
- ∇ Water level
- Impervious seal
- Piezometer

Atterberg limits
- Liquid limit
- Natural water content
- Plastic limit

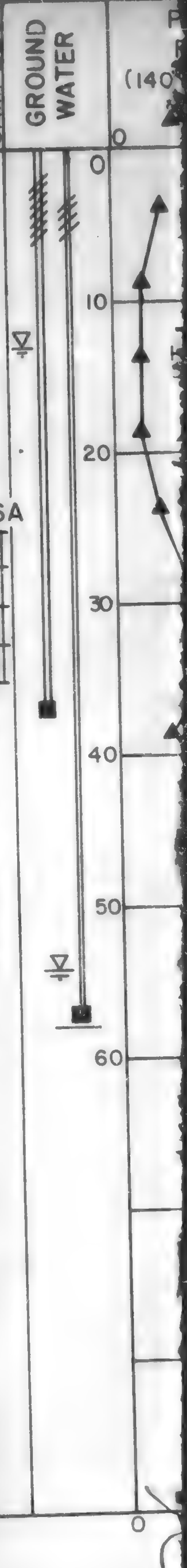
SLIDE INVESTIGATION
OMSI–ZOO COMPLEX
PORTLAND, OREGON

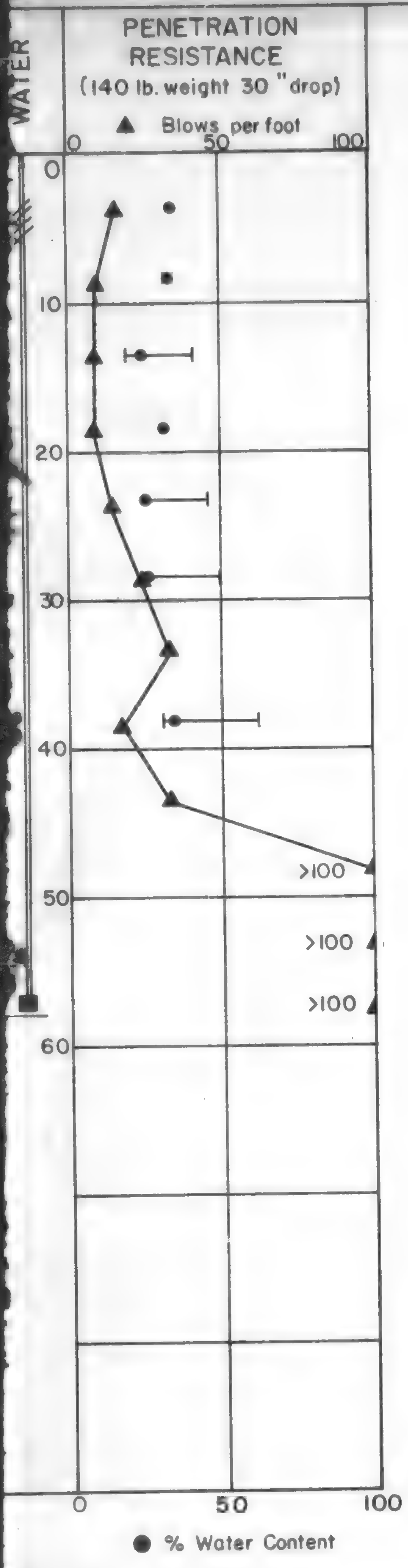
LOG OF BORING
BORING NO. B-5

0-406 APRIL, 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.

FIG. 12

UNIFIED SOIL CLASSIF.	SOIL DESCRIPTION Surface Elevation 641'	DEPTH-feet	SAMPLES
	Very firm, brown with gray streaks, clayey SILT becoming very stiff, silty CLAY. Possible slickensides at 18.5 ft.	0	6 1 2 3 4 5 6A
	Very stiff to hard, reddish brown to brick red CLAY. Possible disturbed zones 37.5'–39 ft.	25	6 7 8
	Decomposed basalt: Hard, mottled gray, sandy SILT.	40	9
	Very dense, gray brown, weathered basalt with yellow mineraloid in vesicles. (COLUMBIA RIVER BASALT FORMATION)	45	10 11
	Bottom of Boring NOTE: Could not fill boring with water when backflushing piezometer. Rock at bottom of hole is pervious.	57.6	12





LEGEND

I 2" O.D. split spoon sample

II 3" O.D. thin-wall sample

P Samples pushed

* Sample not recovered

▽ Water level

Impervious seal

Piezometer

Atterberg limits

Liquid limit

Natural water content

Plastic limit

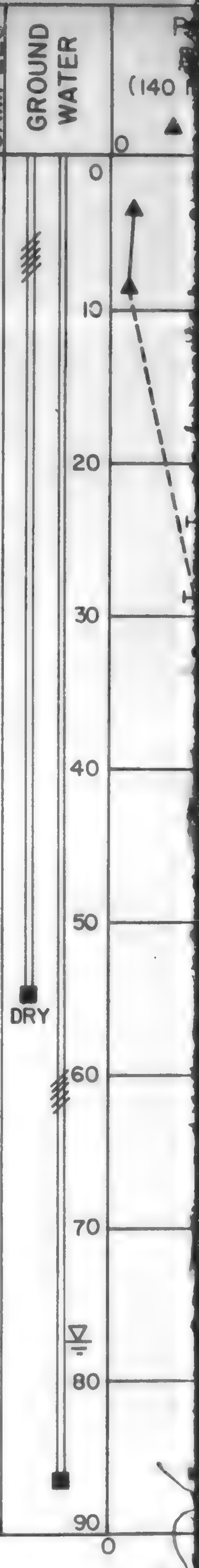
SLIDE INVESTIGATION
OMSI–ZOO COMPLEX
PORTLAND, OREGON

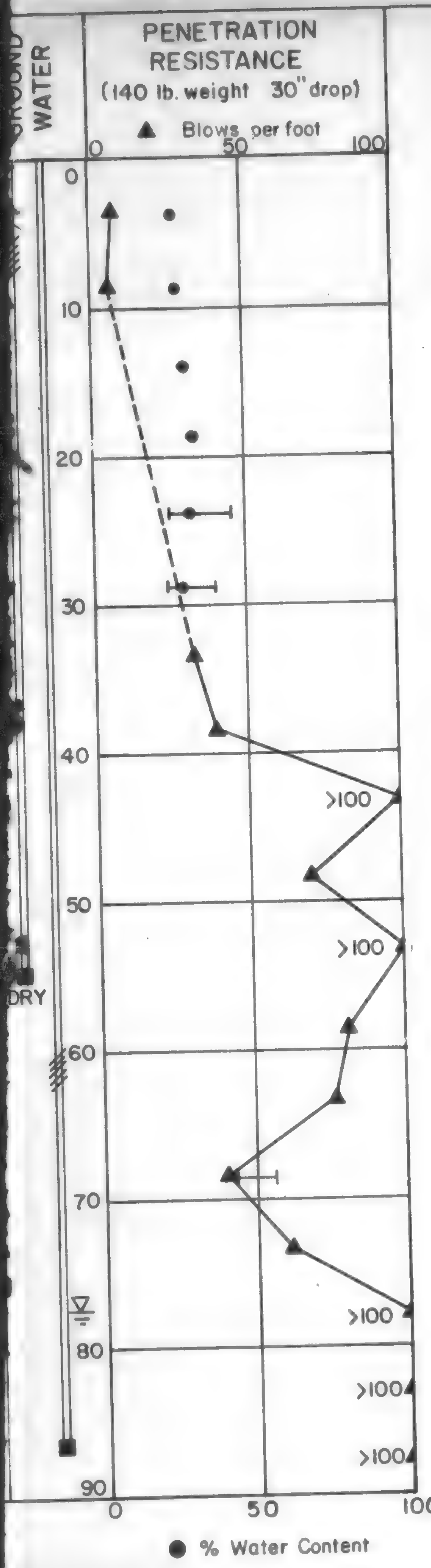
LOG OF BORING
BORING NO. B-6

0-406 APR., 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.

FIG. 13

UNIFIED SOIL CLASSIF.	SOIL DESCRIPTION Surface Elevation 615'	DEPTH-feet	SAMPLES
	Fill: Soft to firm, mottled brown, clayey SILT.	0	1 2
	Firm to stiff, light brown to rust brown, slightly clayey sandy SILT with trace of organics. (PORTLAND SILT FORMATION)	9	3 4 5 P 6 P
	Decomposed basalt: Hard, mottled rust brown gray reddish yellow, clayey SILT and silty CLAY becoming sandy SILT with common yellow mineraloid. Disturbed zones present at 32.5-34.0 ft. and though the interval 62.5-69.0 ft.	29.5	7 8 9 10 11 12 13 14 15
	Dense gray brown to gray weathered basalt. (COLUMBIA RIVER BASALT FORMATION)	75	16 17
	Bottom of Boring	87.7	18





LEGEND

I 2" O.D. split spoon sample

II 3" O.D. thin-wall sample

P Samples pushed

✱ Sample not recovered

▽ Water level

Impervious seal

Piezometer

Atterberg limits

Liquid limit

Natural water content

Plastic limit

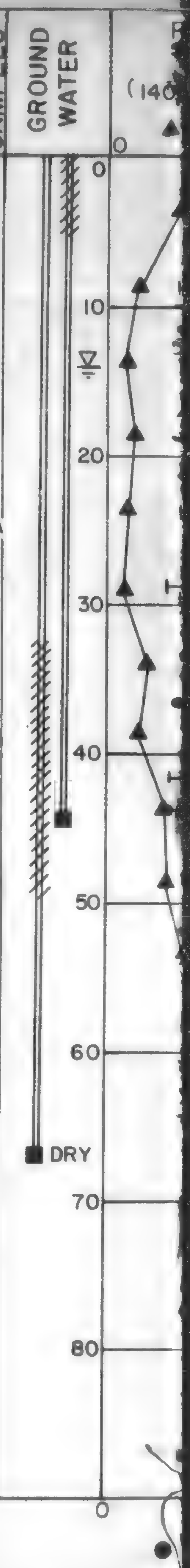
SLIDE INVESTIGATION
OMSI-ZOO COMPLEX
PORTLAND, OREGON

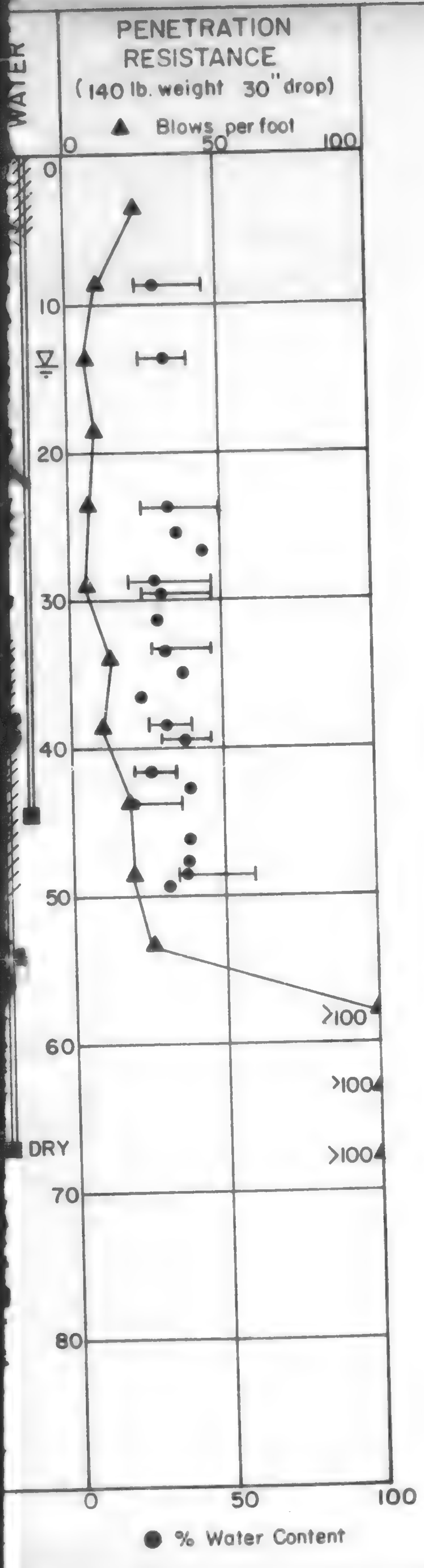
LOG OF BORING
BORING NO. B-7

0-406 APR. 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.

FIG. 14

UNIFIED SOIL CLASSIF.	SOIL DESCRIPTION Surface Elevation 609'	DEPTH-feet	SAMPLES
	Fill: Gray-brown SILT with rock, brick and concrete debris.	0	1 I
	Firm to stiff, light brown, mottled, CLAY and clayey SILT with scattered iron shot. (PORTLAND SILT FORMATION)	5	2 I 3 I 4 I 5 I
	HELVETIA FM. (?): Stiff, reddish brown CLAY with scattered weathered fine to coarse SAND and occasional pebbles. Fractures, 25-90°, with slickensides at 37.5-39.0', 42.5-45.0', 45.0-47.5' and 47.5-50.0'.	25	8A 6 I 7 I 8 I 9 I
	Stiff to hard, brick red CLAY	46	10 I
	Decomposed basalt: Hard, mottled yellow brown-gray, clayey SILT.	49	11 I
	Dense, brown-gray, weathered basalt. (COLUMBIA RIVER BASALT FORMATION)	55	12 x 13 x
	BOTTOM OF BORING BORING COMPLETED 4/21/69	67.5	14 x *





LEGEND

I 2" O.D. split spoon sample

II 3" O.D. thin-wall sample

P Samples pushed

✱ Sample not recovered

▽ Water level

Impervious seal

■ Piezometer

Atterberg limits

Liquid limit

Natural water content

Plastic limit

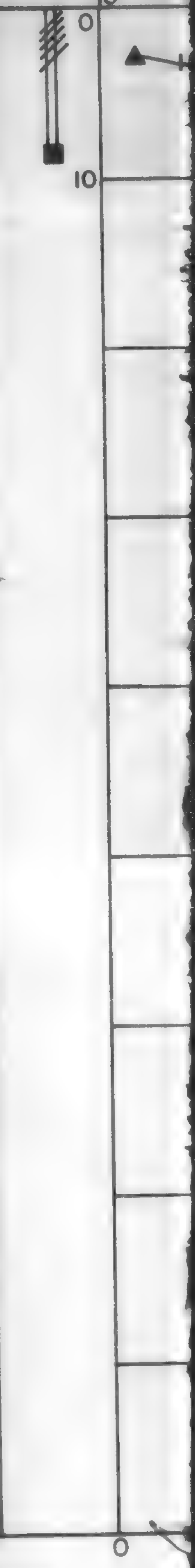
SLIDE INVESTIGATION
OMSI-ZOO COMPLEX
PORTLAND, OREGON

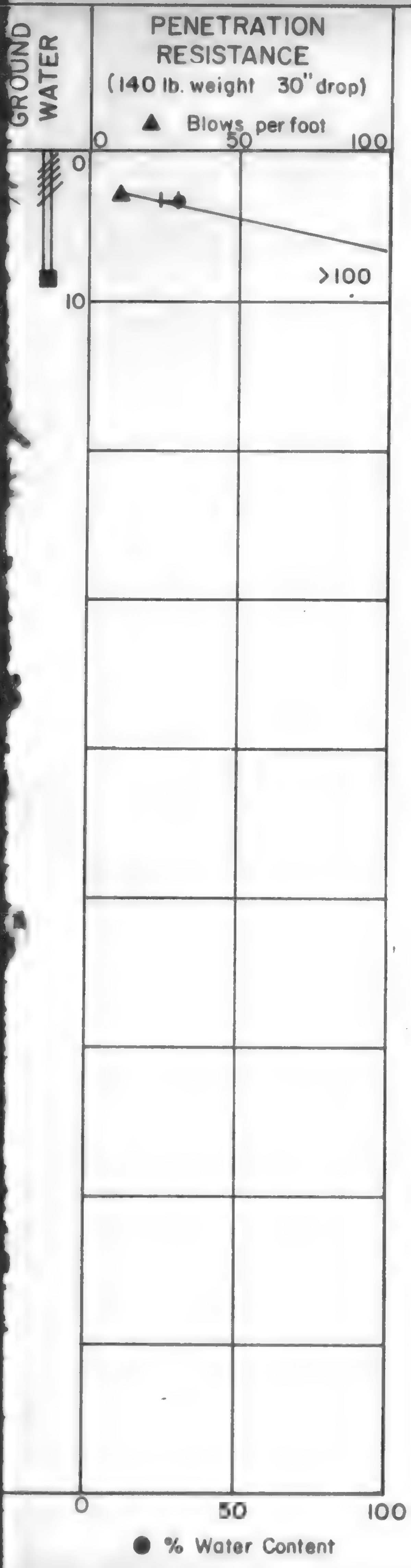
LOG OF BORING
BORING NO. B-8

0-406 APRIL, 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.

FIG 15

UNIFIED SOIL CLASSIF.	SOIL DESCRIPTION Surface Elevation 556'±	DEPTH-feet	SAMPLES	GROUND WATER	P R (140
	Decomposed basalt: Firm, mottled brown-gray and dark gray, clayey SILT w/rock fragments. Disturbed zone.	0	1		
	Dense gray vesicular basalt.	4.5			
	Bottom of Boring	7.7	2		





LEGEND

I	2" O.D. split spoon sample
II	3" O.D. thin-wall sample
P	Samples pushed
*	Sample not recovered
▽	Water level
	Impervious seal
■	Piezometer

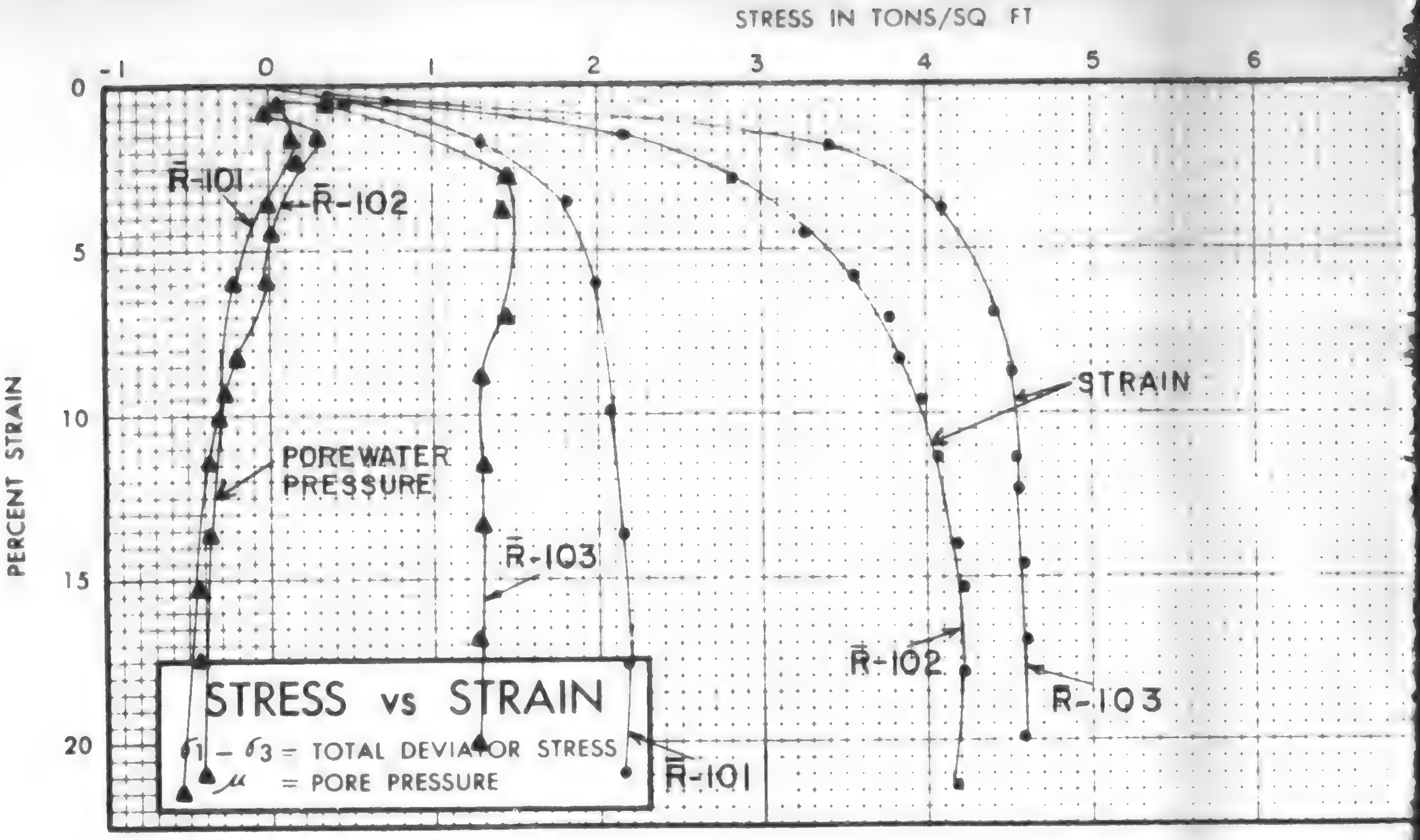
Atterberg limits

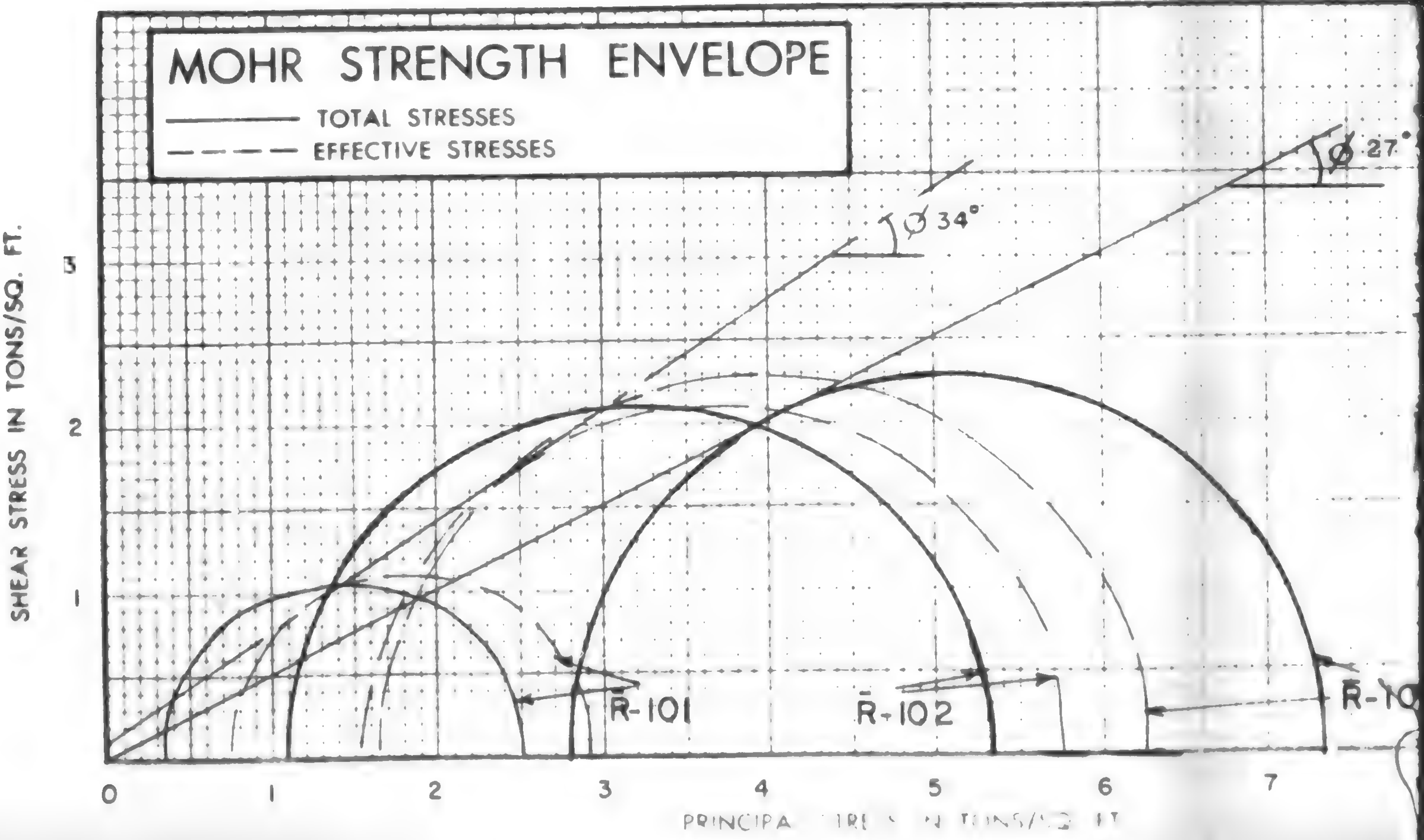
—Liquid limit
—Natural water content
—Plastic limit

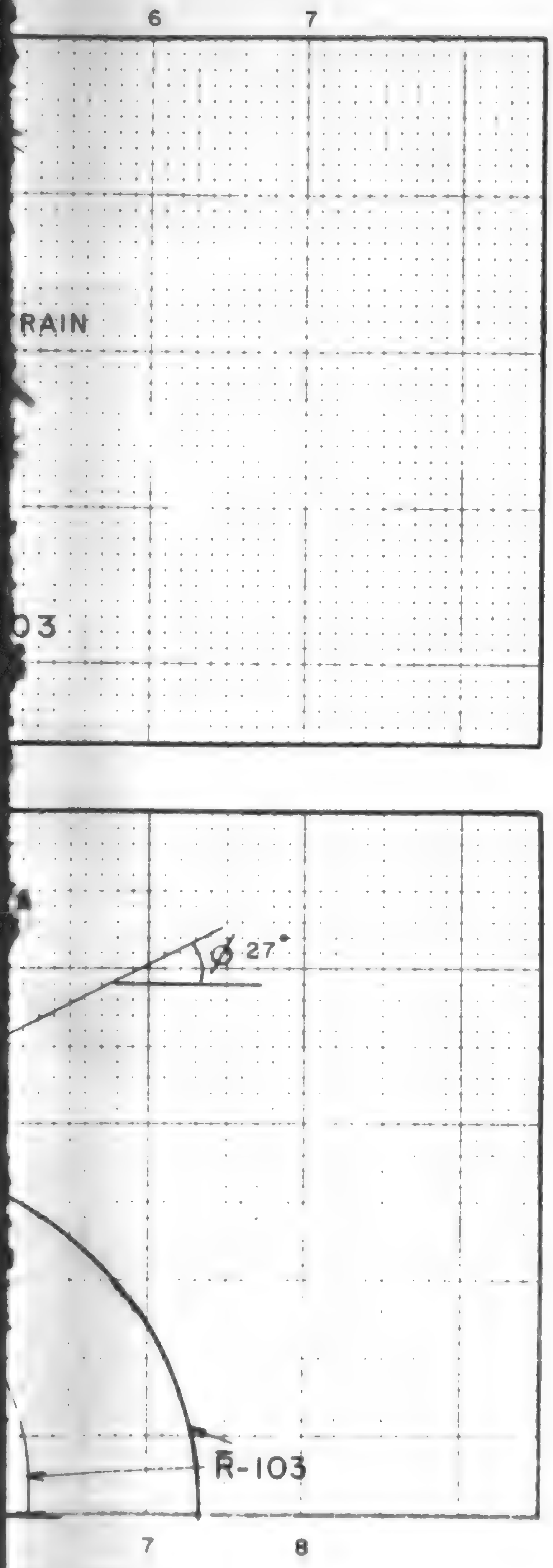
SLIDE INVESTIGATION
OMSI–ZOO COMPLEX
PORTLAND, OREGON

LOG OF BORING
BORING NO. B-9

O-406 MAY, 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.


STRESS IN TONS/SQ FT
-1
0
1
2
3
4
5
6
PERCENT STRAIN
0
5
10
15
20
R̄-101
R̄-102
POREWATER PRESSURE
R̄-103
STRAIN
R̄-102
R-103
R̄-101
STRESS vs STRAIN
σ1 – σ3 = TOTAL DEVIATOR STRESS
μ = PORE PRESSURE


MOHR STRENGTH ENVELOPE
TOTAL STRESSES
EFFECTIVE STRESSES
Ø 27°
Ø 34°
SHEAR STRESS IN TONS/SQ. FT.
3
2
1
R̄-101
R̄-102
R̄-10
0
1
2
3
4
5
6
7
PRINCIPAL STRESS IN TONS/SQ. FT.



TYPE OF TEST ☐ Q ■ R̄ ☐ S

■ PRESATURATED ☐ COMPACTED ■ UNDISTURBED

■ BACK PRESSURE

TEST NO.	R̄-101	R̄-102	R̄-103	
CLASSIFICATION				
CHAMBER PRESSURE, tsf.	0.36	1.08	2.78	
HEIGHT, inches	4.97	4.97	4.97	
DIAMETER, inches	2.1	2.1	2.1	
____ UNIT WT., pcf.	1205	119.5	123.9	
% WATER CONTENT BEFORE TEST	28.2	28.2	28.2	
% WATER CONTENT AFTER SATURATION				
% WATER CONTENT AFTER TEST	32.0	29.6	27.6	
BACK PRESSURE - psi	42	70	50	

COMPACTIVE EFFORT:

______ lb. hammer ______ inch drop

______ layers ______ blows layer

______ % compaction @ ______

REMARKS: BROWN SILTY CLAY

LL = 46 PL = 25 PI = 21

TRIAXIAL COMPRESSION TEST

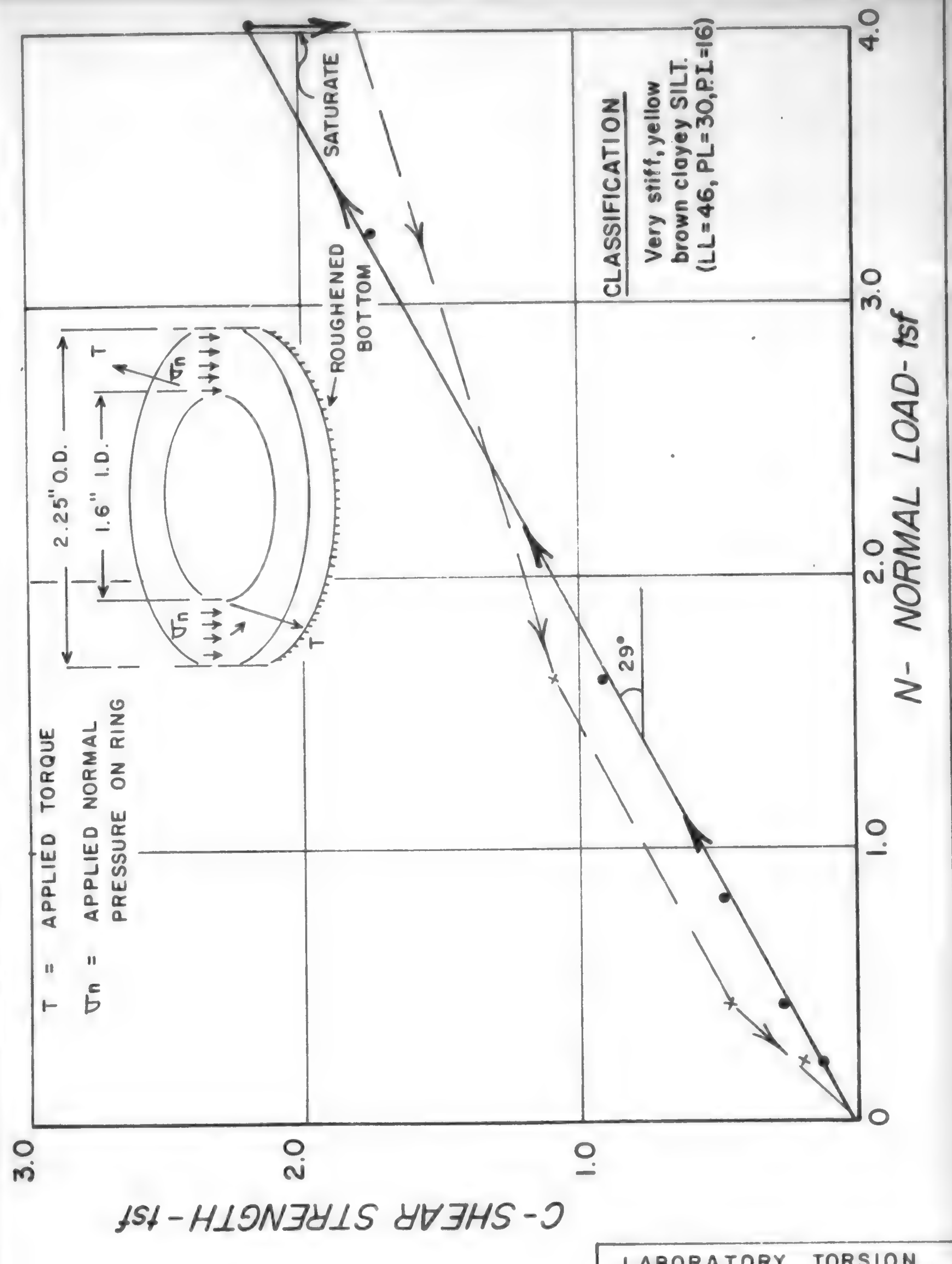
BORING B-7, SAMPLES, S-4, S-5

DEPTH 17.5 - 25.0 FT.

0-406 MAY, 1969

Shannon and Wilson
Soil mechanics and foundation engineers
Seattle

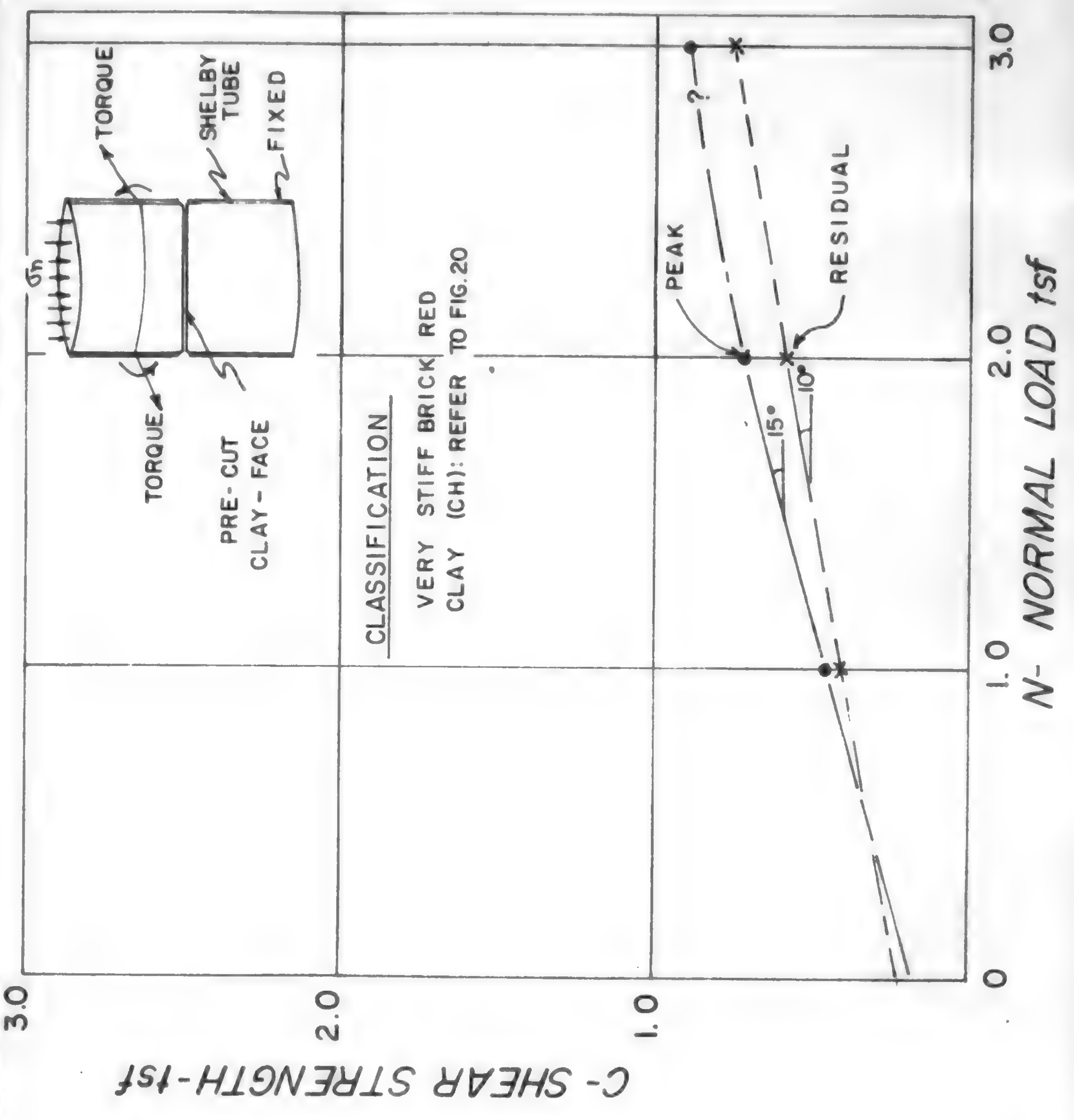
FIG. 17



LABORATORY TORSION
SHEAR TEST
BOORING B-8A, SAMPLE S-7
(DEPTH 40.0 - 42.5 FT.)

0-406 MAY, 1969

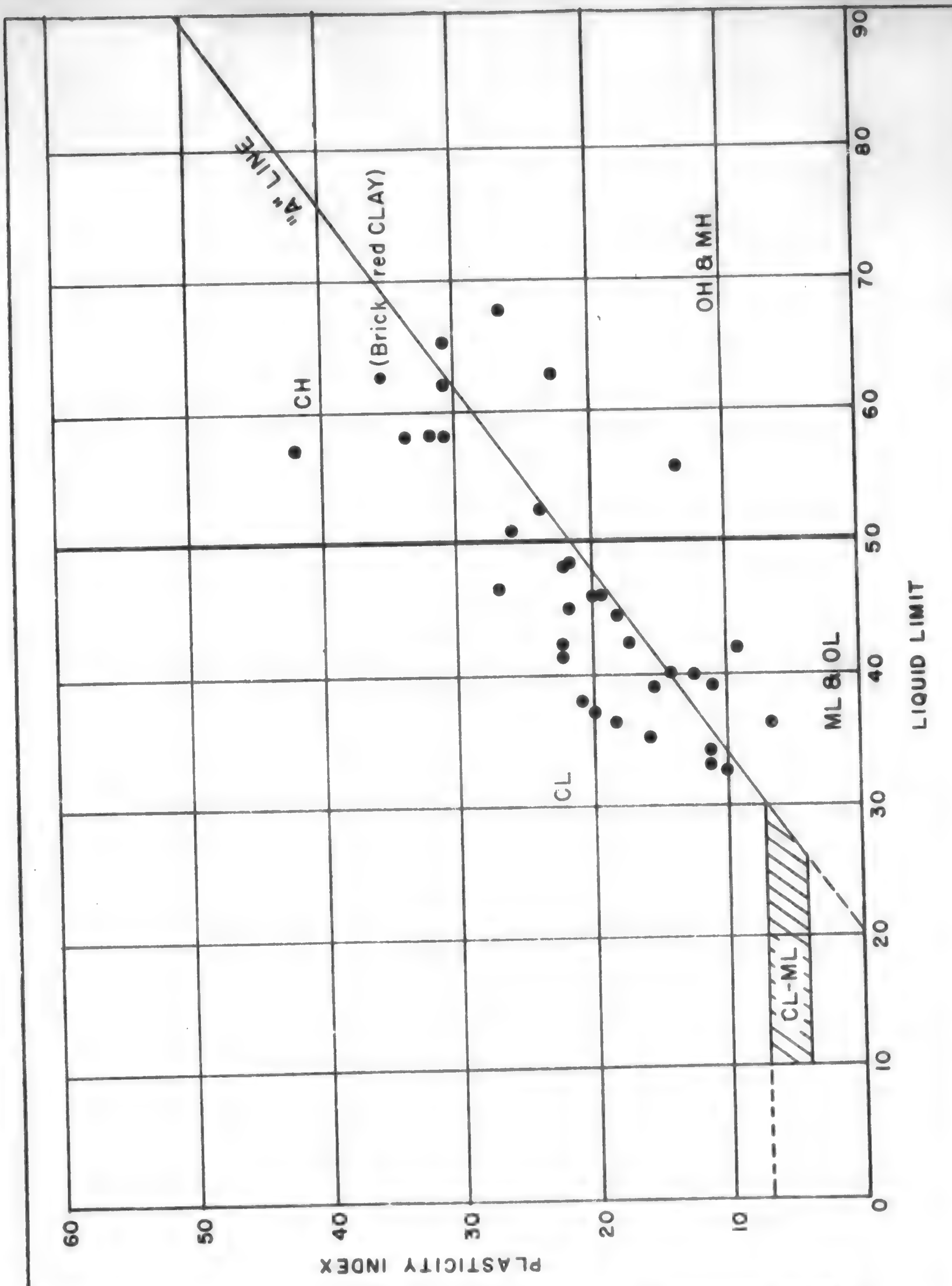
SHANNON & WILSON, INC. FIG. 18



LABORATORY TORSION
SHEAR TEST
BORING B-6A, SAMPLE S-3
(DEPTH 30.0-32.5 FT.)

0-406 MAY, 1969

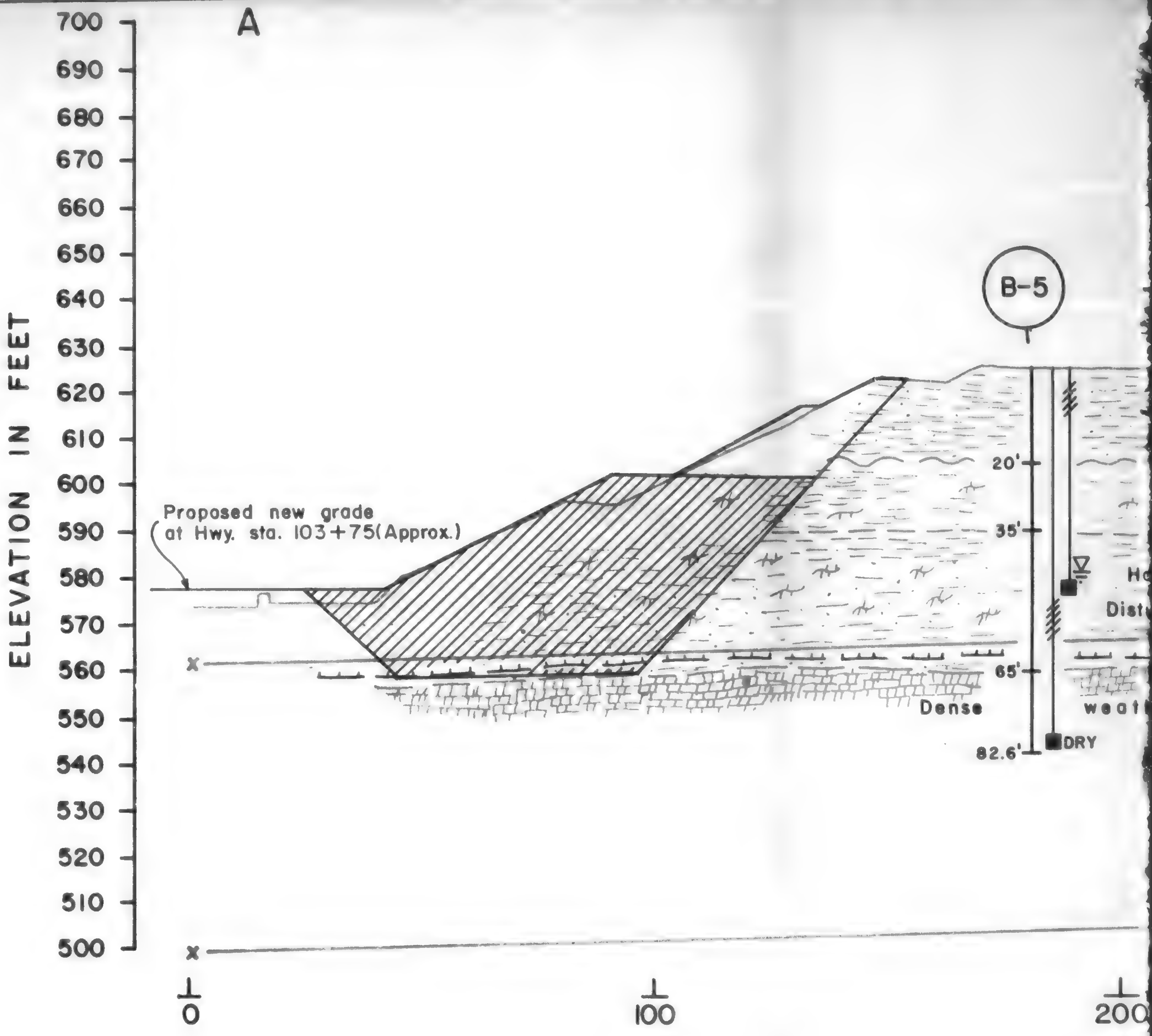
SHANNON & WILSON, INC. FIG. 19

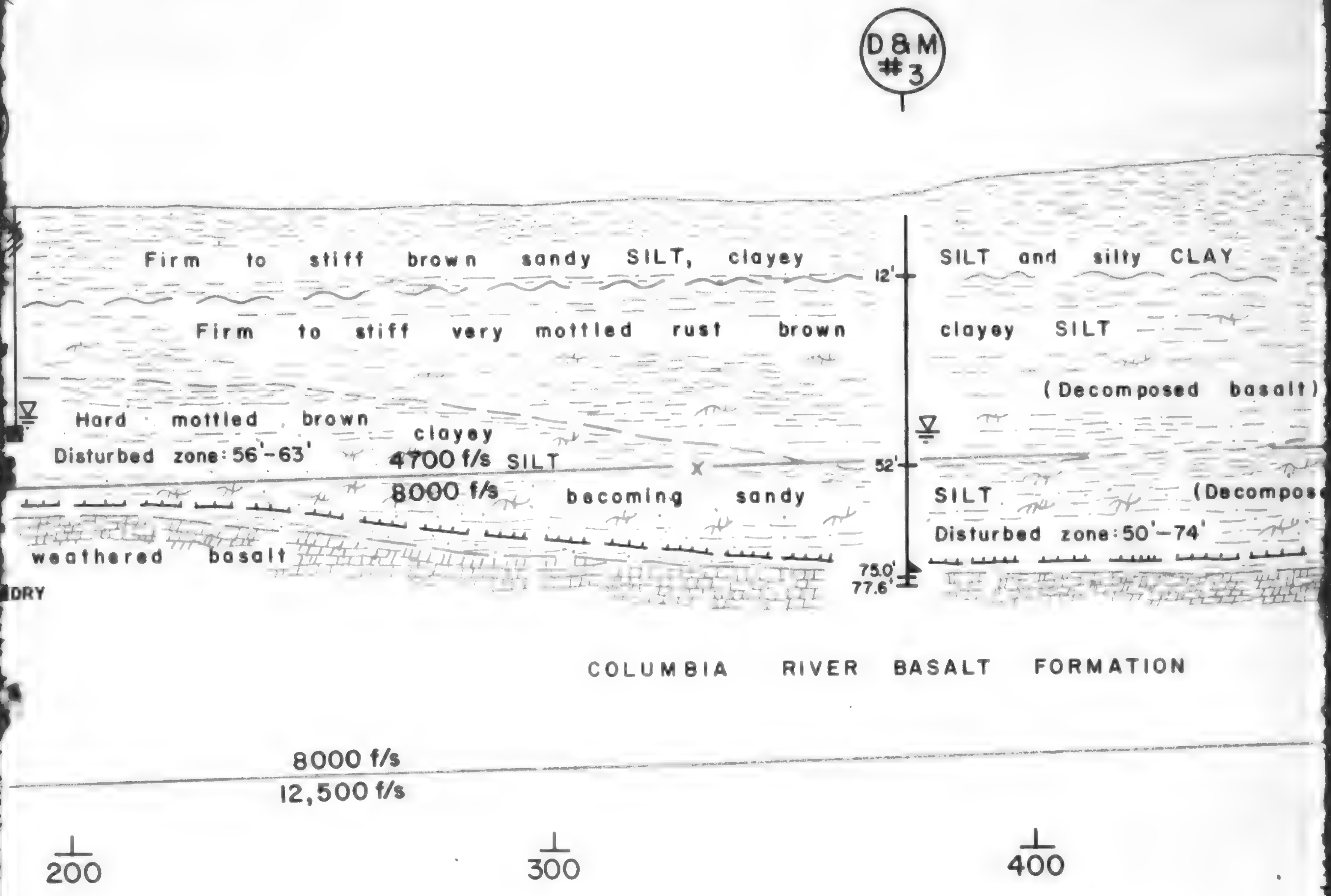


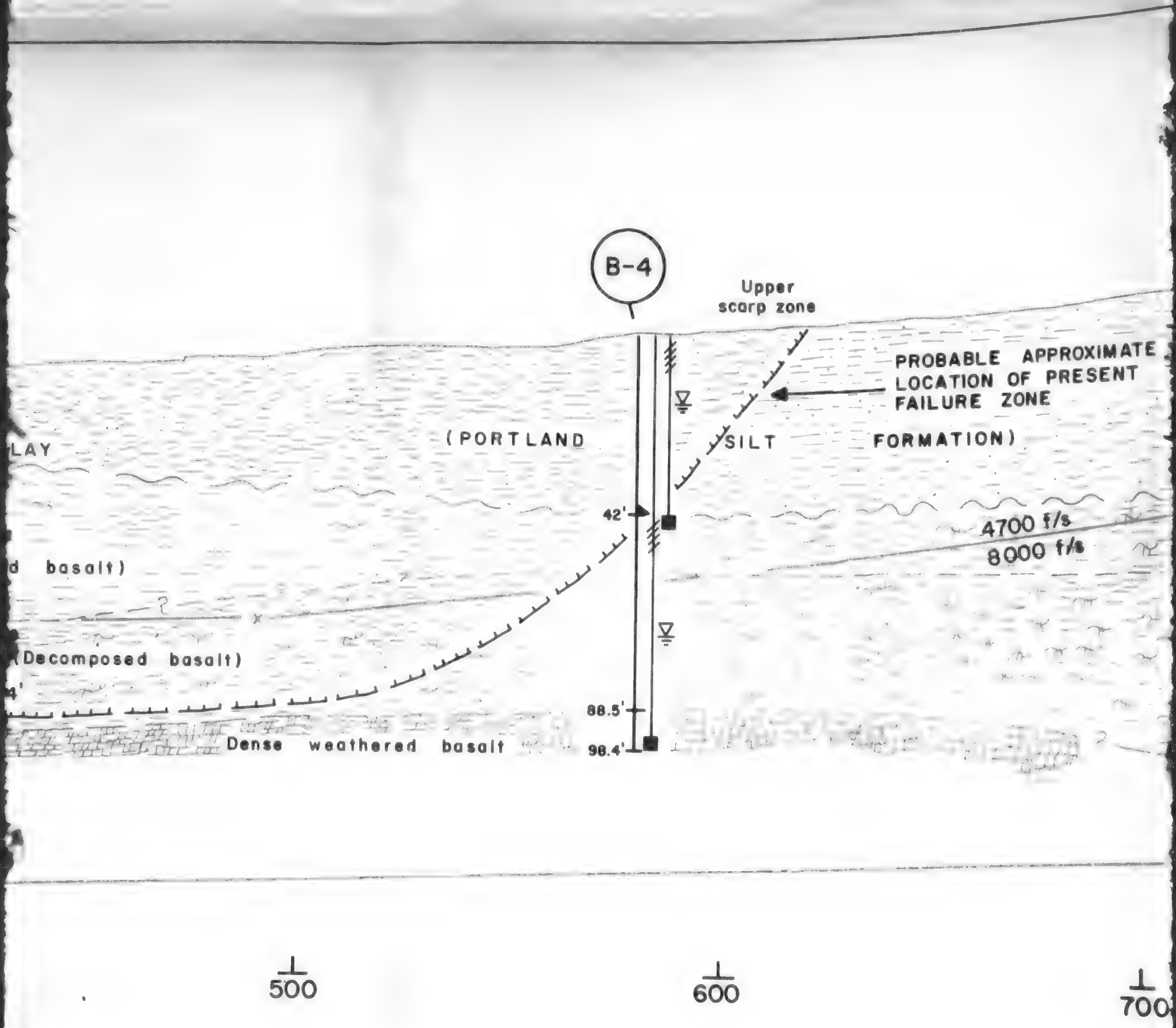
PLASTICITY CHART

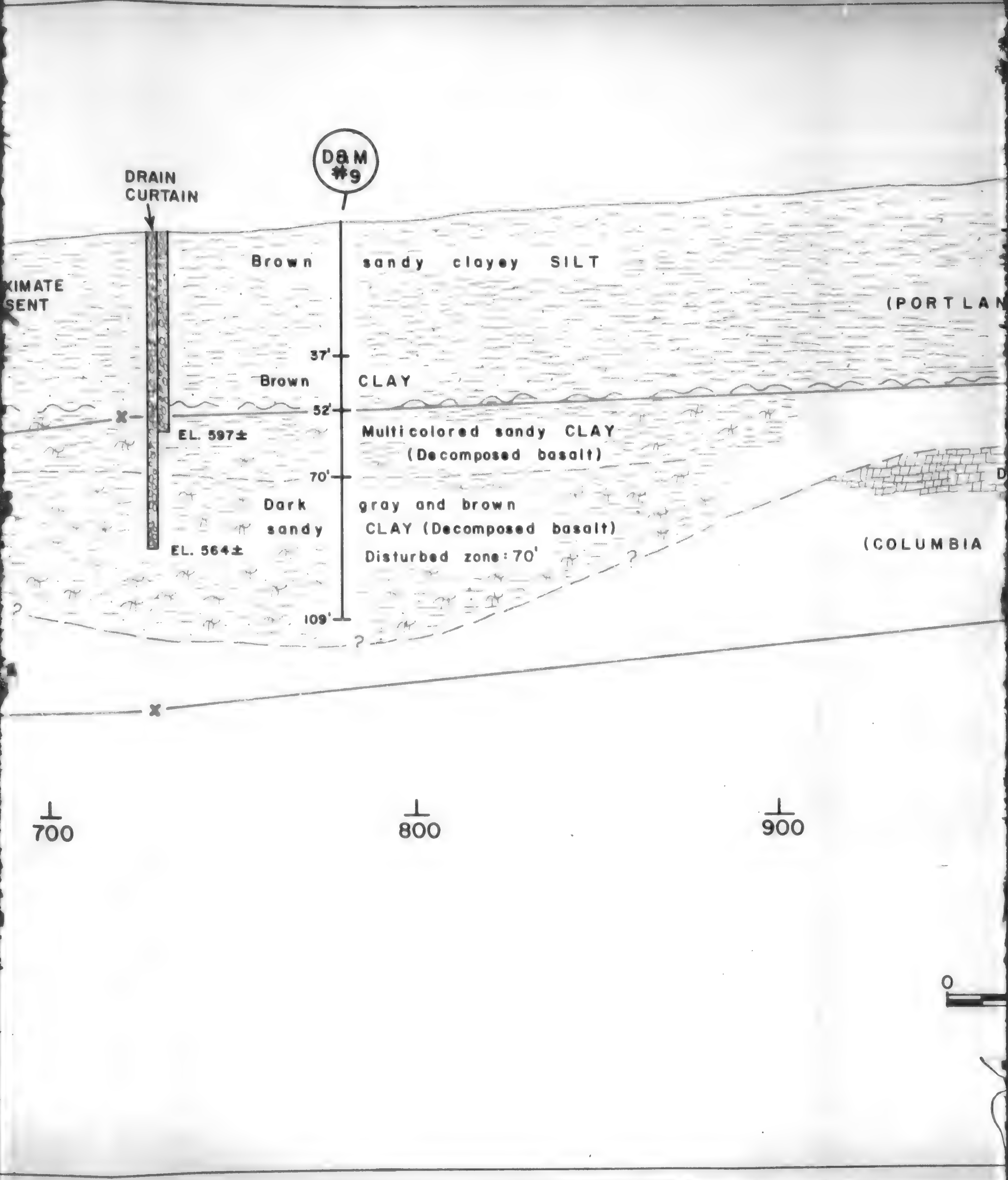
0-406 SHANNON & WILSON MAY, 1969
SOIL MECHANICS & FOUNDATION ENGINEERS

FIG.20

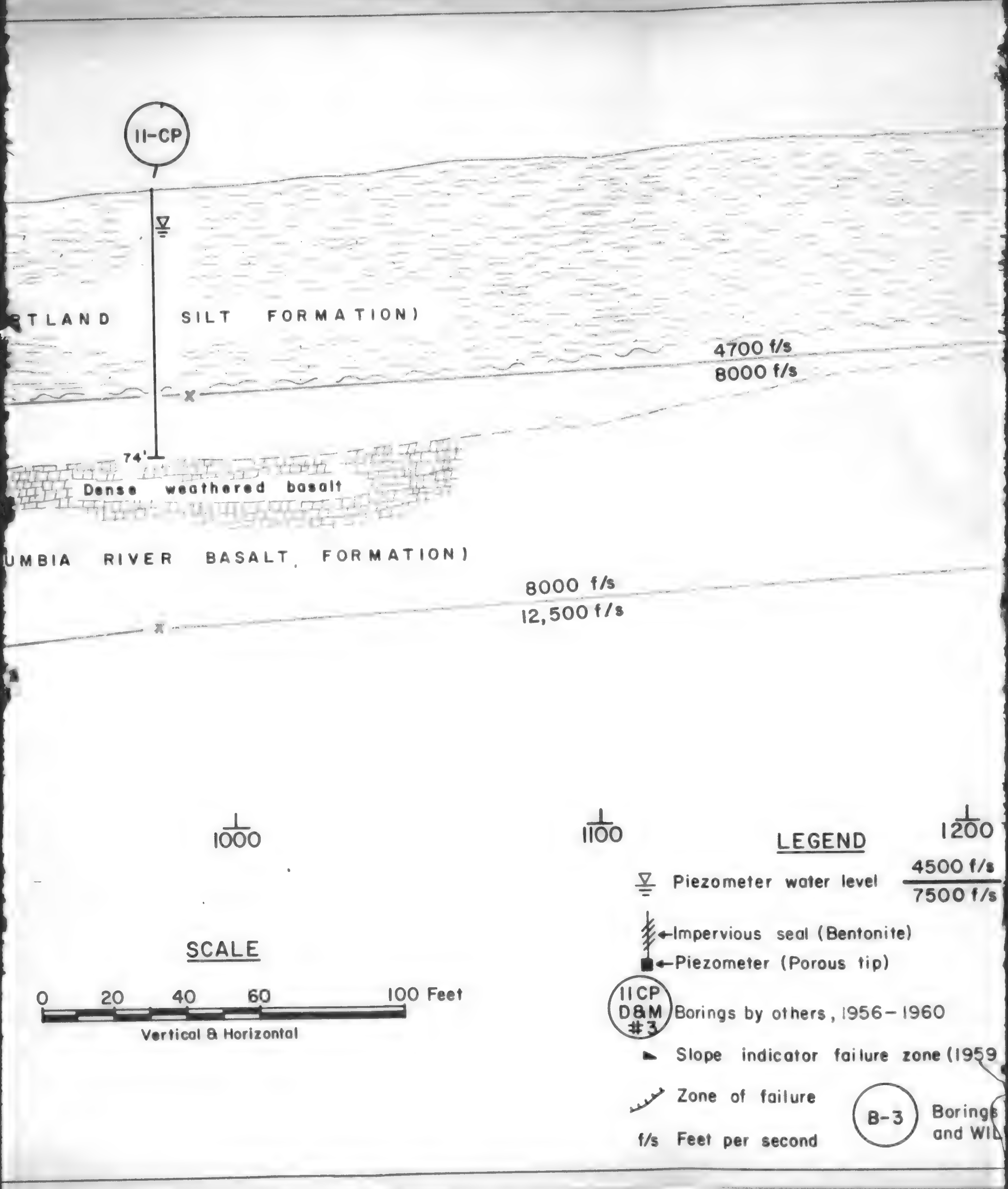
A
ELEVATION IN FEET
Proposed new grade
at Hwy. sta. 103+75(Approx.)
x
x
B-5
82.6'
DRY
Ho
Dist
Dense
weat

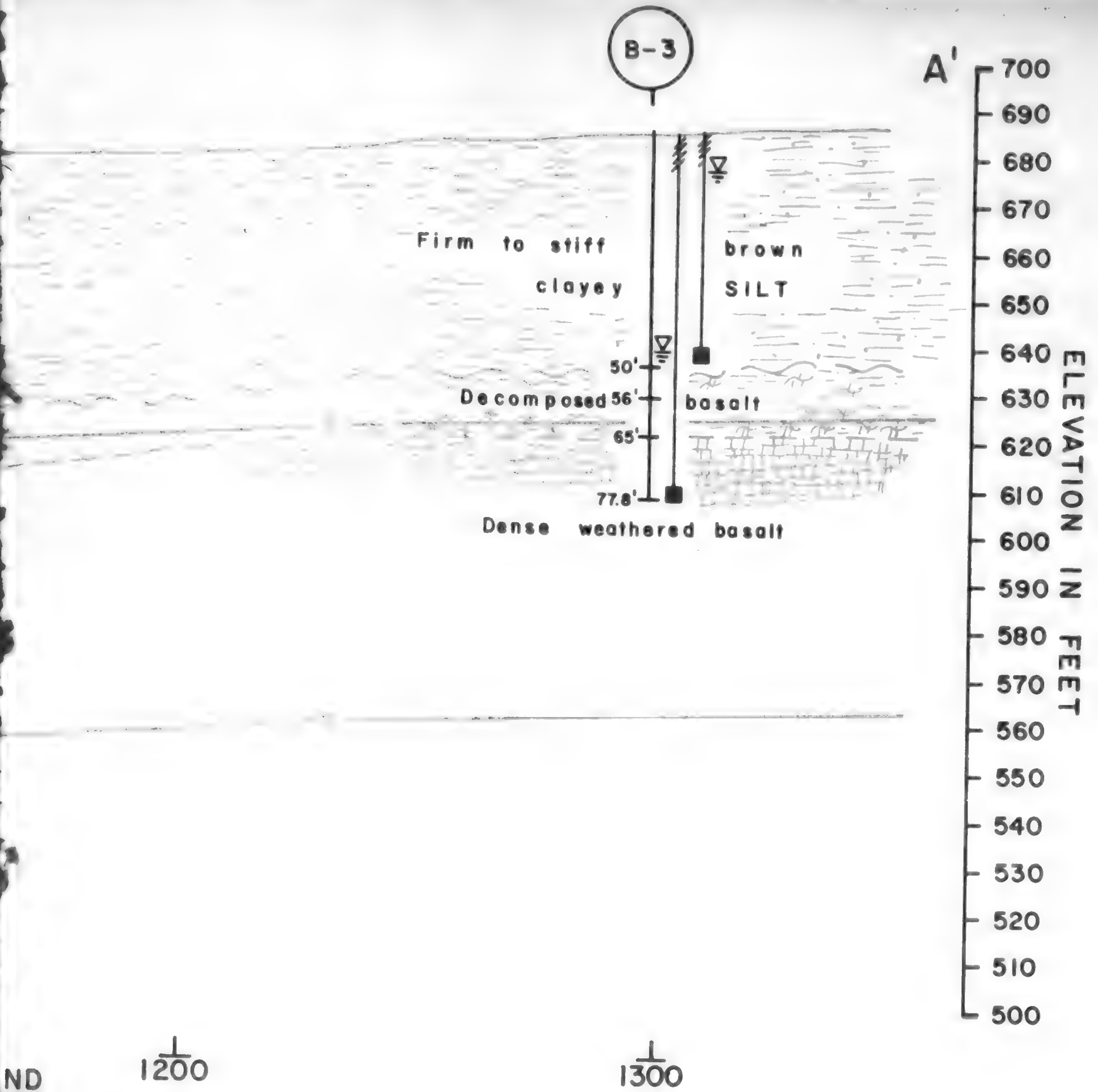

D&M #3
Firm to stiff brown sandy SILT, clayey
12'
SILT and silty CLAY
Firm to stiff very mottled rust brown
clayey SILT
(Decomposed basalt)
Hard mottled brown
clayey
Disturbed zone: 56'-63'
4700 f/s SILT
52'
8000 f/s
becoming sandy
SILT
(Decompose
Disturbed zone: 50'-74'
weathered basalt
75.0'
77.6'
DRY
COLUMBIA RIVER BASALT FORMATION
8000 f/s
12,500 f/s
200
300
400


B-4
Upper scarp zone
PROBABLE APPROXIMATE LOCATION OF PRESENT FAILURE ZONE
LAY
(PORTLAND SILT FORMATION)
42'
4700 f/s
8000 f/s
d basalt)
?
(Decomposed basalt)
4'
88.5'
Dense weathered basalt
98.4'
500
600
700



DRAIN CURTAIN
D&M #9
XIMATE
SENT
Brown sandy clayey SILT
(PORTLAN
37'
Brown CLAY
52'
EL. 597±
Multicolored sandy CLAY (Decomposed basalt)
70'
Dark gray and brown sandy CLAY (Decomposed basalt)
Disturbed zone: 70'
EL. 564±
(COLUMBIA
D
109'
?
?
?
700
800
900
0


11-CP
RTLAND SILT FORMATION)
4700 f/s
8000 f/s
74'
Dense weathered basalt
UMBIA RIVER BASALT FORMATION)
8000 f/s
12,500 f/s
1000
1100
1200
LEGEND
Piezometer water level
4500 f/s
7500 f/s
←Impervious seal (Bentonite)
←Piezometer (Porous tip)
11CP
D&M
#3
Borings by others, 1956-1960
Slope indicator failure zone (1959
Zone of failure
f/s Feet per second
B-3
Borings
and WIL
SCALE
0
20
40
60
100 Feet
Vertical & Horizontal


B-3
A'
700
690
680
670
660
650
640
630
620
610
600
590
580
570
560
550
540
530
520
510
500
ELEVATION IN FEET
Firm to stiff brown clayey SILT
50'
Decomposed 56' basalt
65'
77.8'
Dense weathered basalt
1200
1300

ND

level

4500 f/s / 7500 f/s Seismic velocity interface

entonite)

s tip)

1956-1960

ailure zone (1959 Investigation)

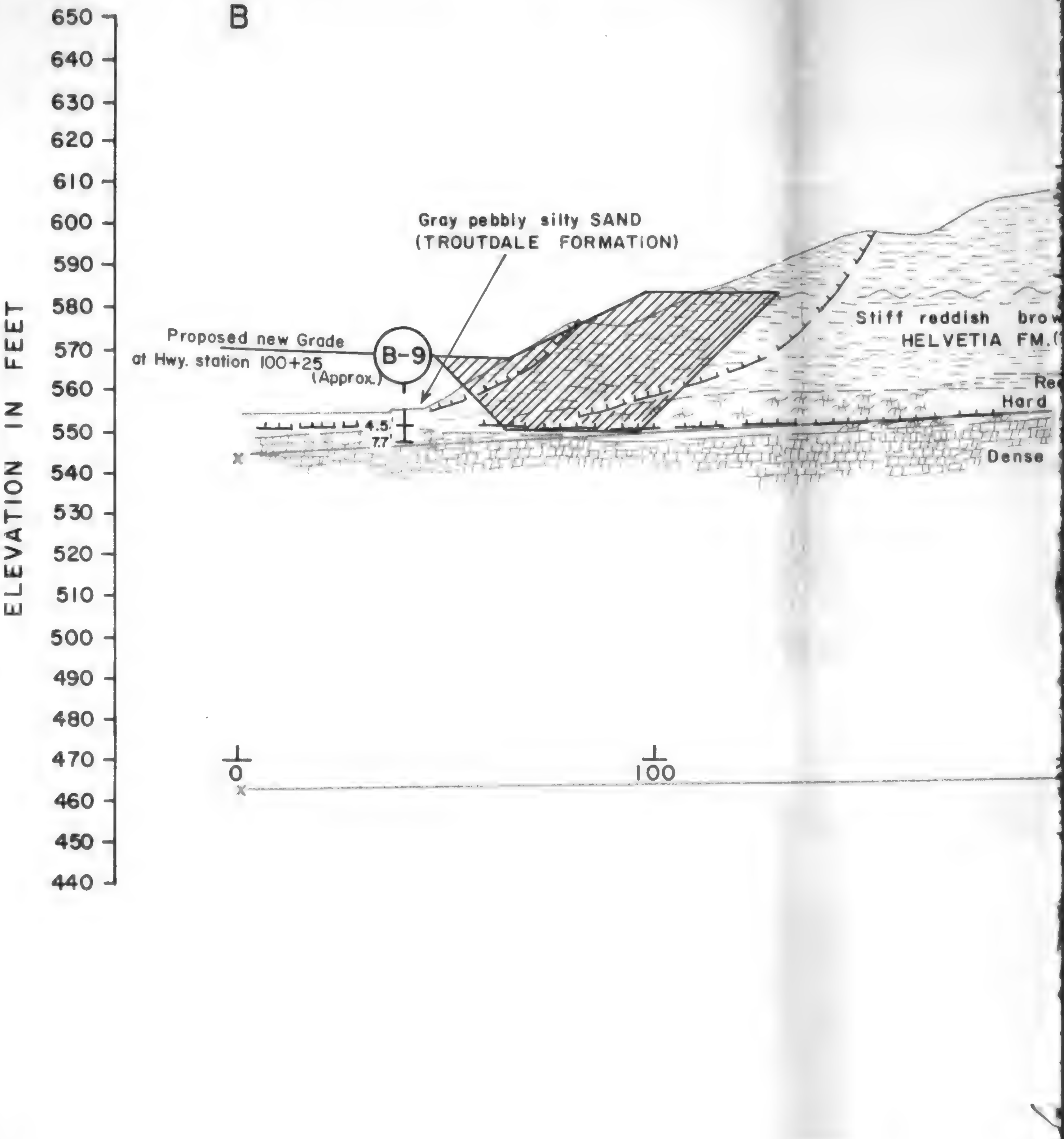
B-3 Borings by SHANNON and WILSON, April, 1969

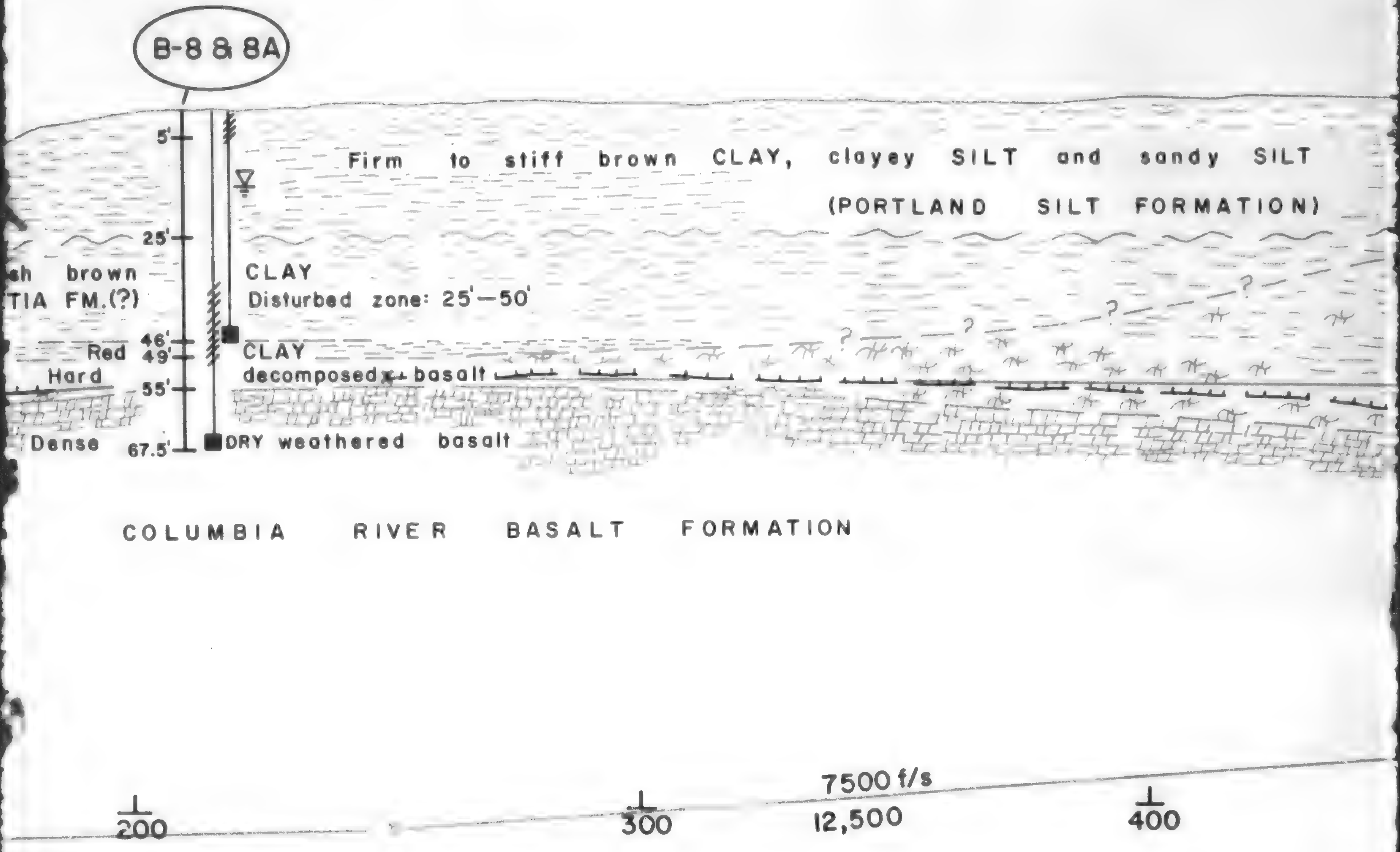
OMSI-ZOO SLIDE
PORTLAND, OREGON

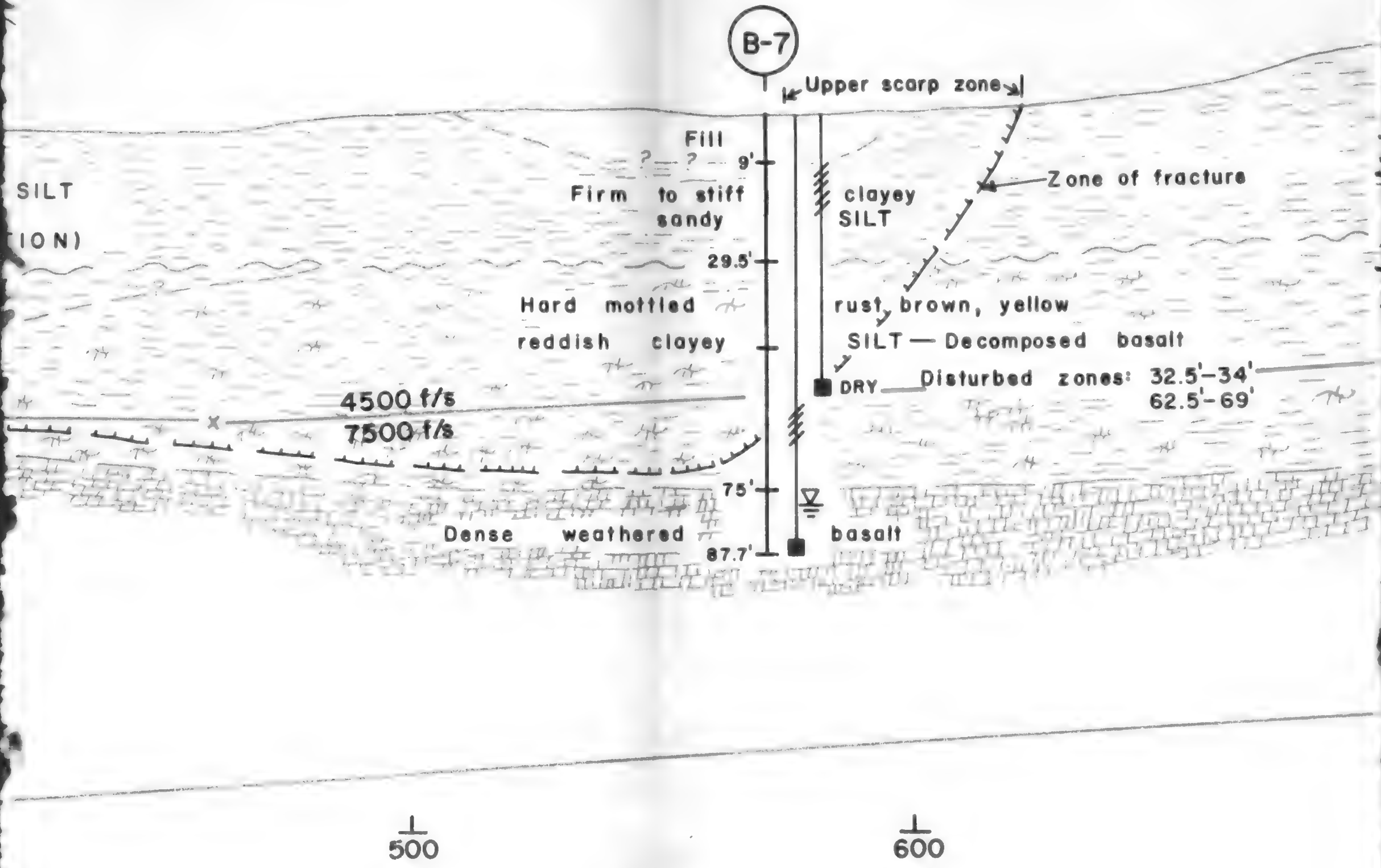
GEOLOGIC CROSS-SECTION
A-A'

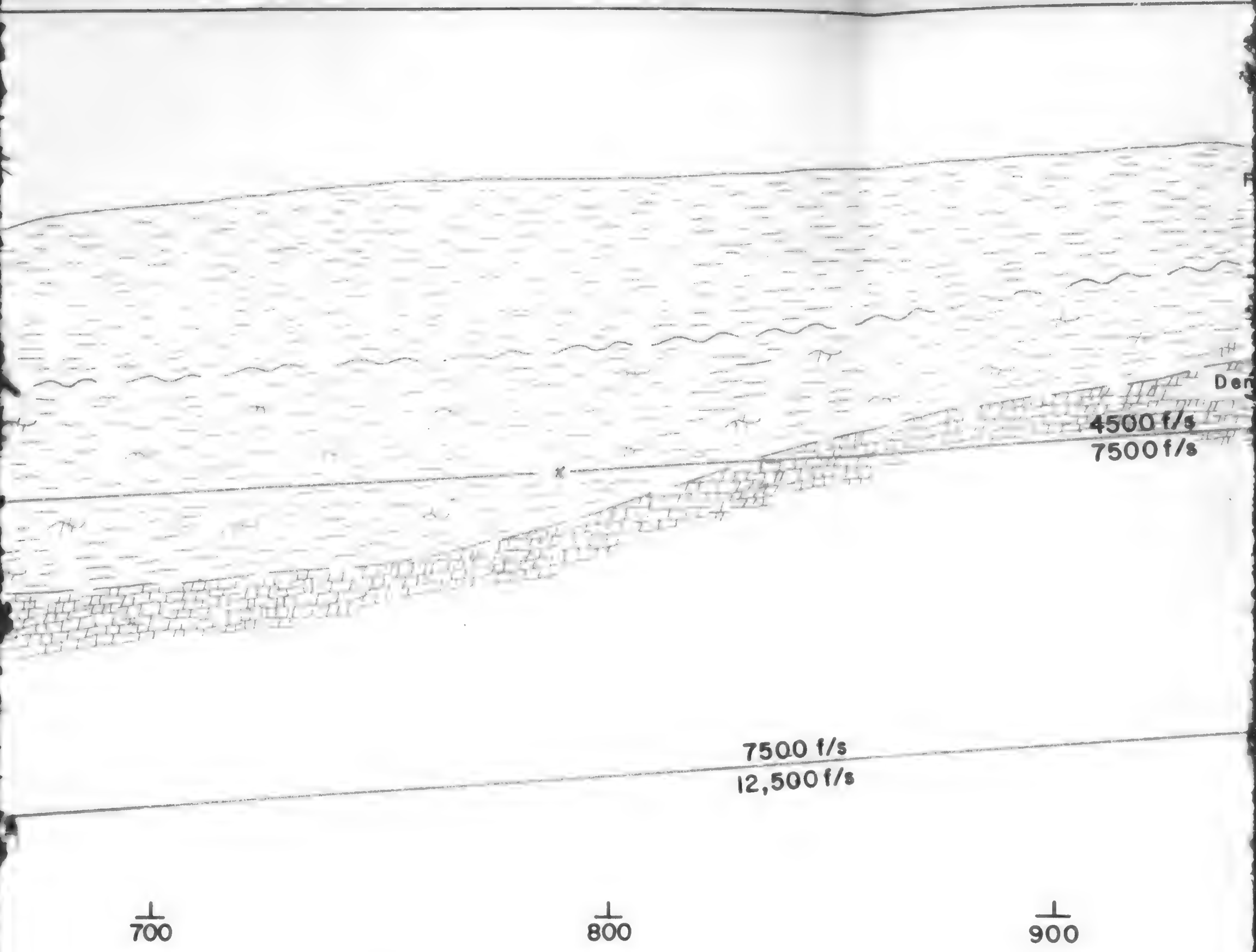
SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 21


B
ELEVATION IN FEET
Gray pebbly silty SAND
(TROUTDALE FORMATION)
Proposed new Grade
at Hwy. station 100+25
(Approx.)
B-9
4.5'
7.7'
Stiff reddish brow
HELVETIA FM.(
Re
Hard
Dense


B-8 & 8A
5'
25'
46'
49'
55'
67.5'
Firm to stiff brown CLAY, clayey SILT and sandy SILT
(PORTLAND SILT FORMATION)
sh brown
TIA FM.(?)
CLAY
Disturbed zone: 25'—50'
Red
Hard
CLAY
decomposed basalt
Dense
DRY weathered basalt
?
COLUMBIA RIVER BASALT FORMATION
7500 f/s
12,500
200
300
400


B-7
Upper scarp zone
Fill
9'
Firm to stiff sandy
clayey SILT
Zone of fracture
SILT
ION)
29.5'
Hard mottled reddish clayey
rust, brown, yellow SILT — Decomposed basalt
DRY
Disturbed zones: 32.5'–34' 62.5'–69'
4500 f/s
7500 f/s
75'
Dense weathered
basalt
87.7'
500
600


Den
4500 f/s
7500 f/s
7500 f/s
12,500 f/s
700
800
900

LEGEND

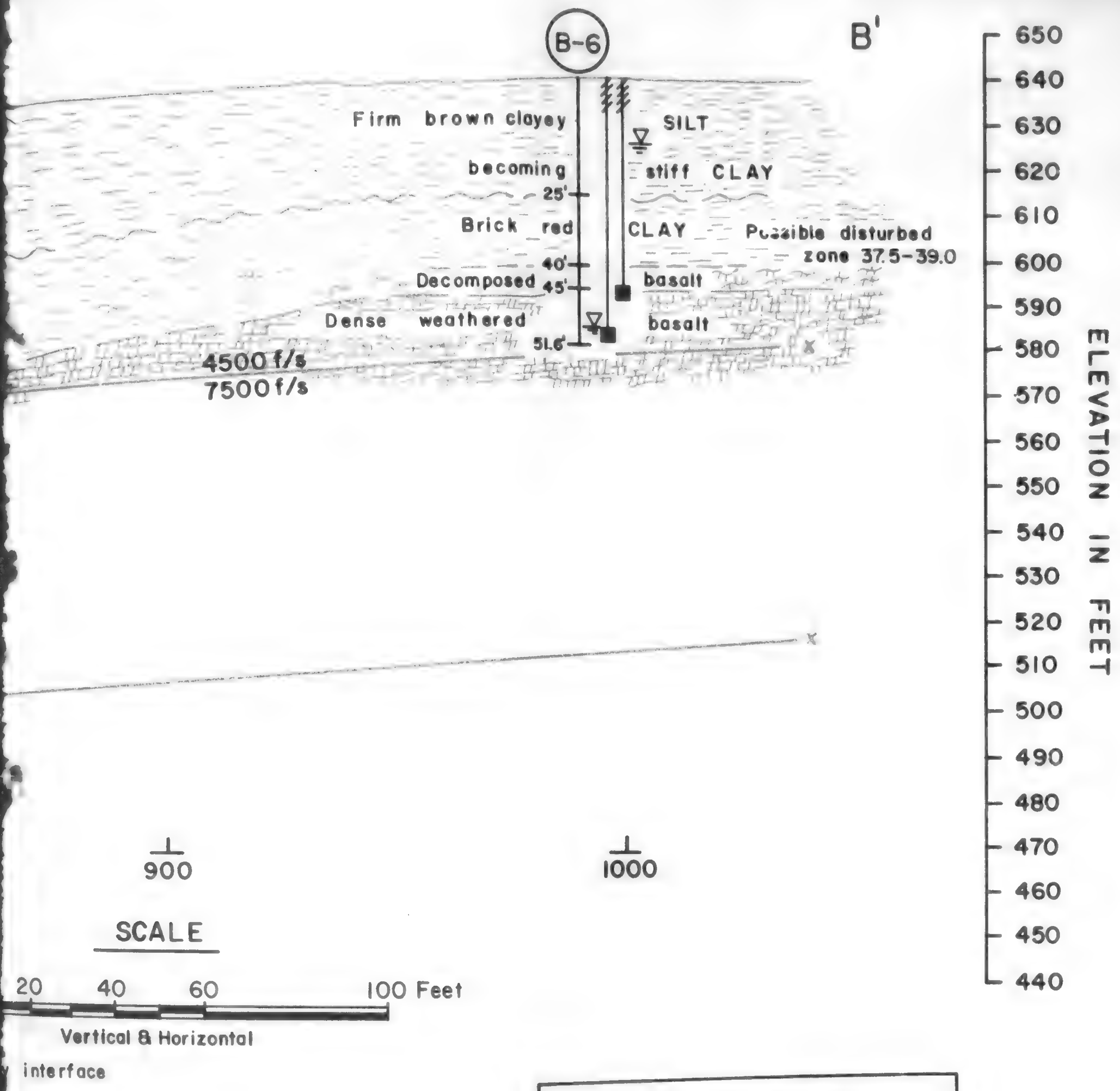
- ∇ Piezometer water level
- ←Impervious seal (Bentonite)
- ■←Piezometer (Porous tip)
- 11CP D&M #3 Borings by others, 1956-1960
- ◣ Slope indicator failure zone (1959 Investigation)
- Zone of failure
- f/s Feet per second

4500 f/s / 7500 f/s Seismic velocity interface

B-3 Borings by SHANNON and WILSON, April, 1969

SCALE

Vertical & Horizontal

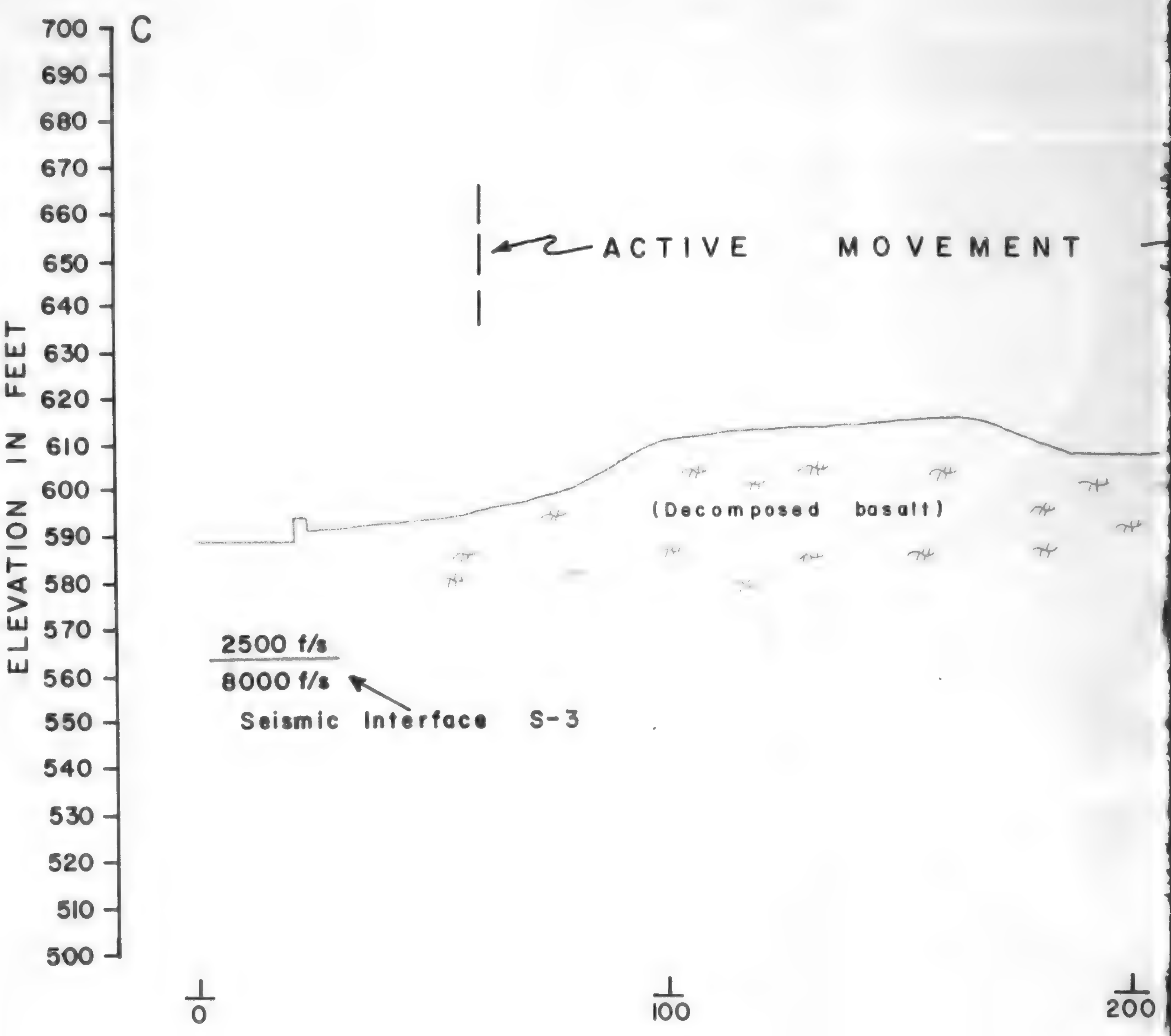

B-6
B'
Firm brown clayey SILT
becoming stiff CLAY
25'
Brick red CLAY
Possible disturbed zone 37.5-39.0
40'
Decomposed basalt
45'
Dense weathered basalt
51.6'
4500 f/s
7500 f/s
900
1000
ELEVATION IN FEET
650
640
630
620
610
600
590
580
570
560
550
540
530
520
510
500
490
480
470
460
450
440
SCALE
20
40
60
100 Feet
Vertical & Horizontal
interface

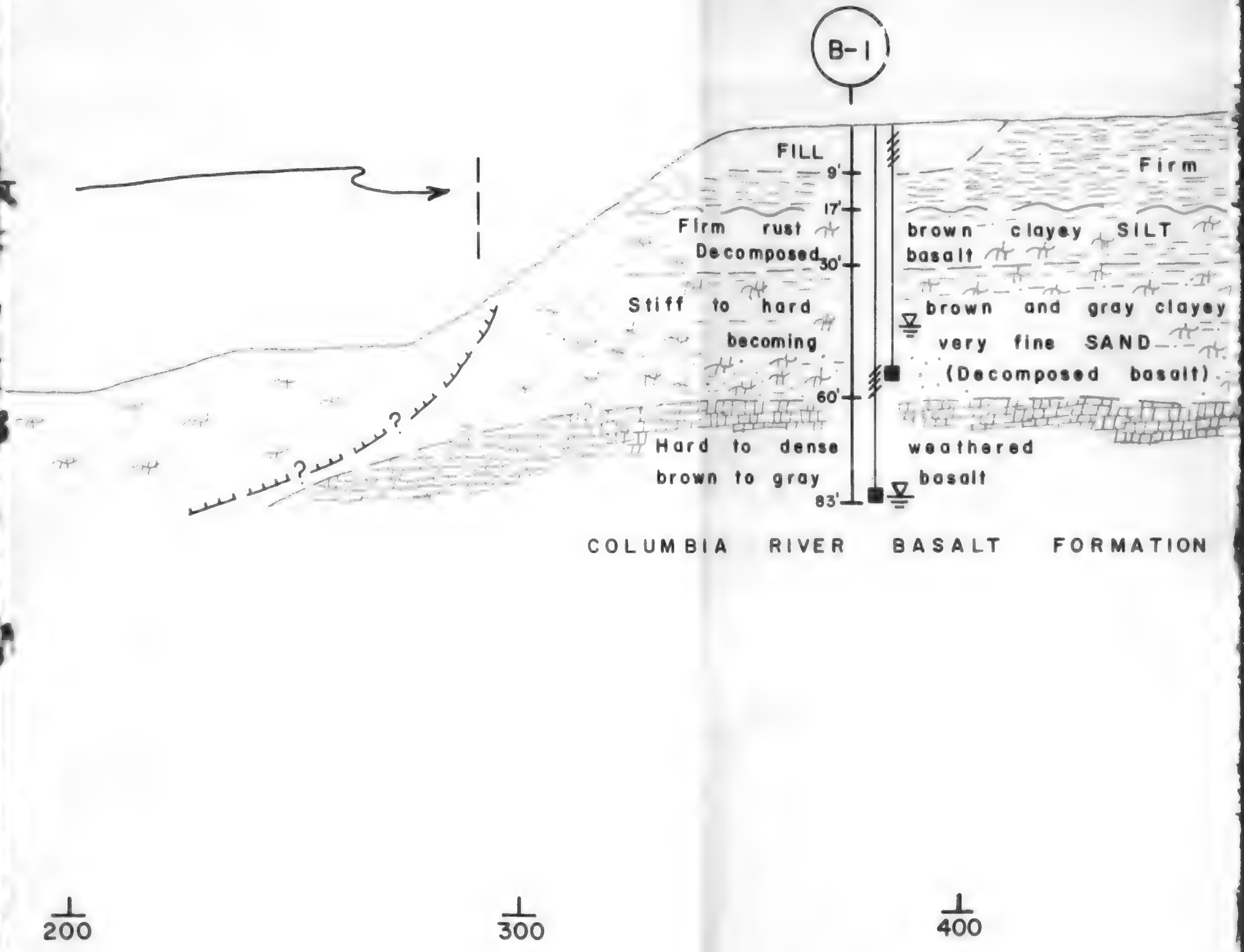
OMSI–ZOO SLIDE
PORTLAND, OREGON

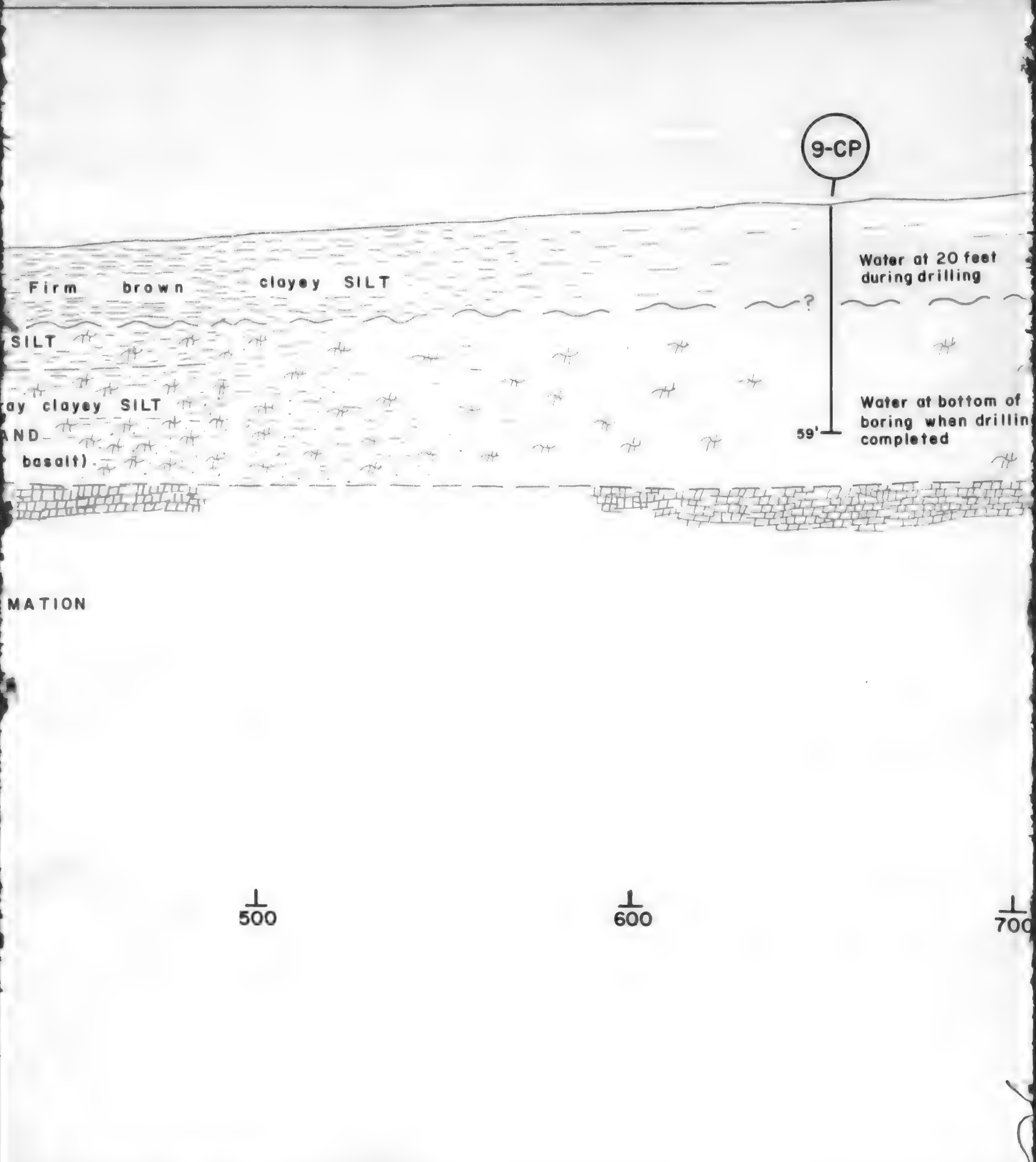
GEOLOGIC CROSS-SECTION
B – B'

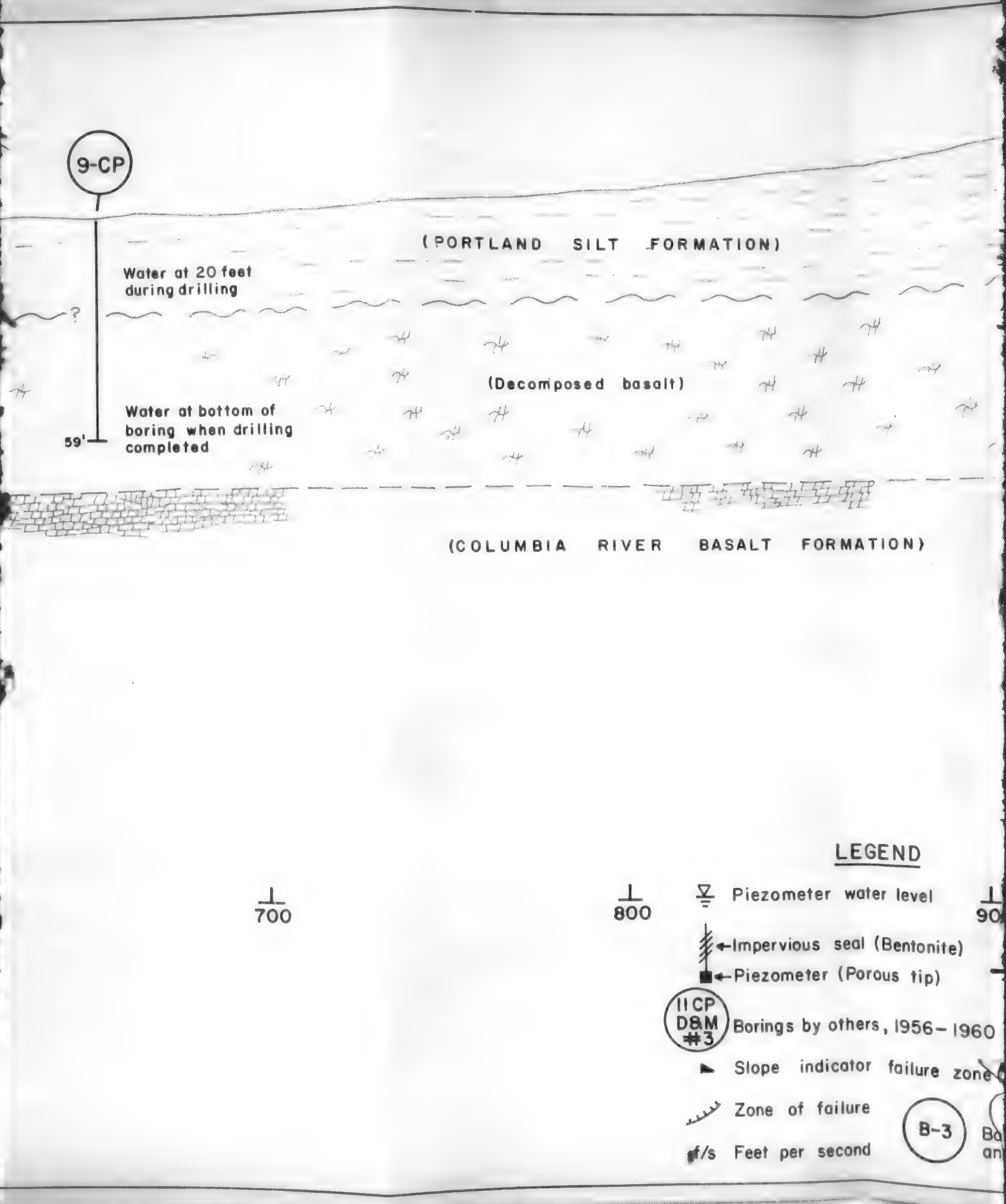
SHANNON & WILSON, INC.
PORTLAND, OREGON

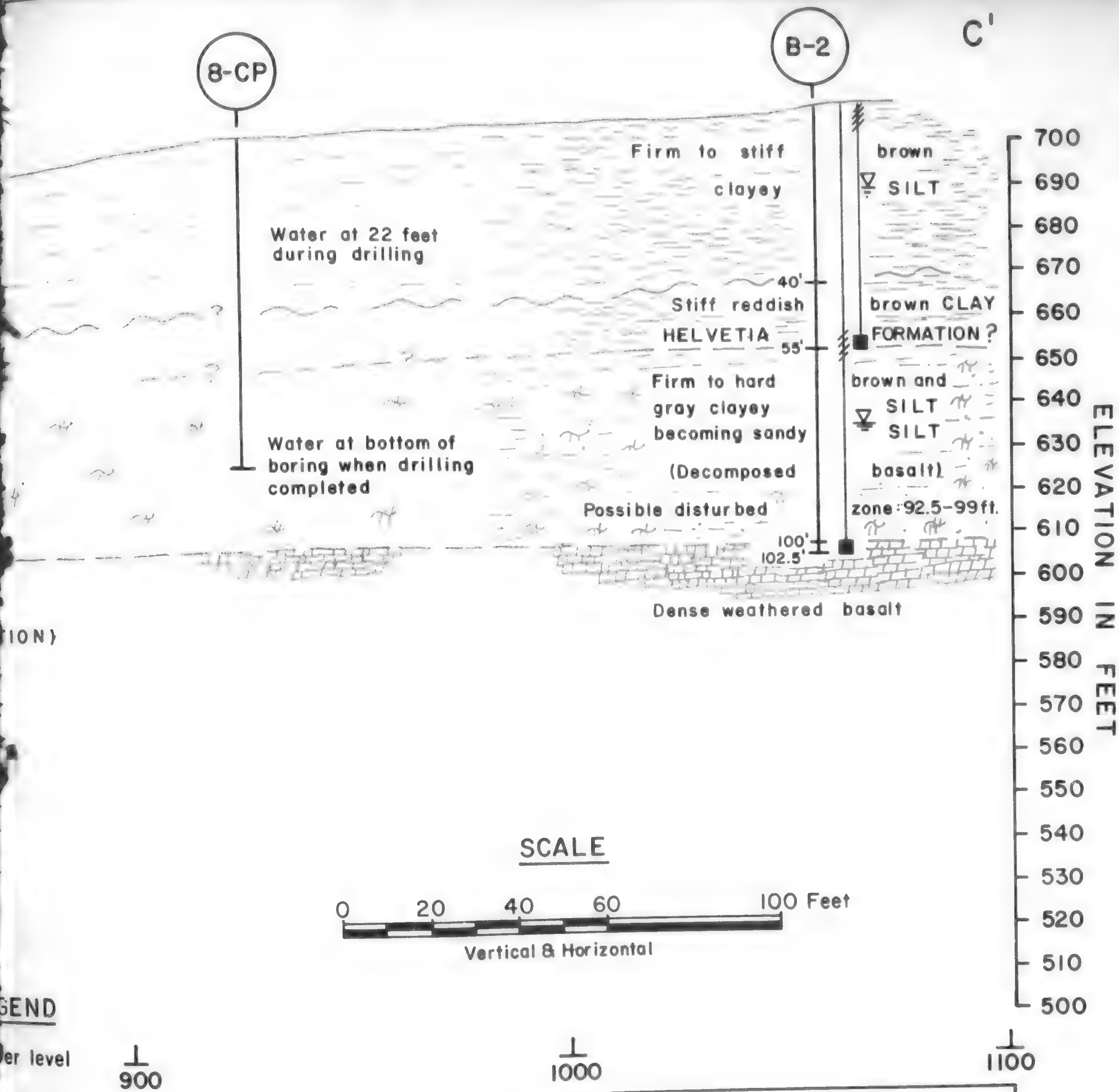
FIG. 22


C
ELEVATION IN FEET
ACTIVE MOVEMENT
(Decomposed basalt)
2500 f/s
8000 f/s
Seismic Interface S-3


B-1
FILL
9'
17'
Firm rust brown clayey SILT
Firm
Decomposed basalt
30'
Stiff to hard becoming brown and gray clayey very fine SAND
(Decomposed basalt)
60'
Hard to dense brown to gray weathered basalt
83'
?
?
COLUMBIA RIVER BASALT FORMATION
200
300
400


9-CP
Firm brown clayey SILT
Water at 20 feet during drilling
?
SILT
ay clayey SILT
AND
basalt)
Water at bottom of boring when drillin completed
59'
MATION
500
600
700


9-CP
(PORTLAND SILT FORMATION)
Water at 20 feet during drilling
?
(Decomposed basalt)
Water at bottom of boring when drilling completed
59'
(COLUMBIA RIVER BASALT FORMATION)
700
800
90
LEGEND
Piezometer water level
Impervious seal (Bentonite)
Piezometer (Porous tip)
11 CP D&M #3
Borings by others, 1956-1960
Slope indicator failure zone
Zone of failure
f/s Feet per second
B-3


C'
8-CP
B-2
Firm to stiff brown clayey SILT
Water at 22 feet during drilling
40'
Stiff reddish brown CLAY
HELVETIA FORMATION ?
55'
Firm to hard gray clayey becoming sandy
brown and SILT SILT
(Decomposed basalt)
Water at bottom of boring when drilling completed
Possible disturbed zone: 92.5-99 ft.
100'
102.5'
Dense weathered basalt
ION)
ELEVATION IN FEET
700
690
680
670
660
650
640
630
620
610
600
590
580
570
560
550
540
530
520
510
500
SCALE
0
20
40
60
100 Feet
Vertical & Horizontal
900
1000
1100

GEND

er level

(Bentonite)

rous tip)

4500 f/s / 7500 f/s Seismic velocity interface

rs, 1956-1960

r failure zone (1959 Investigation)

e

d

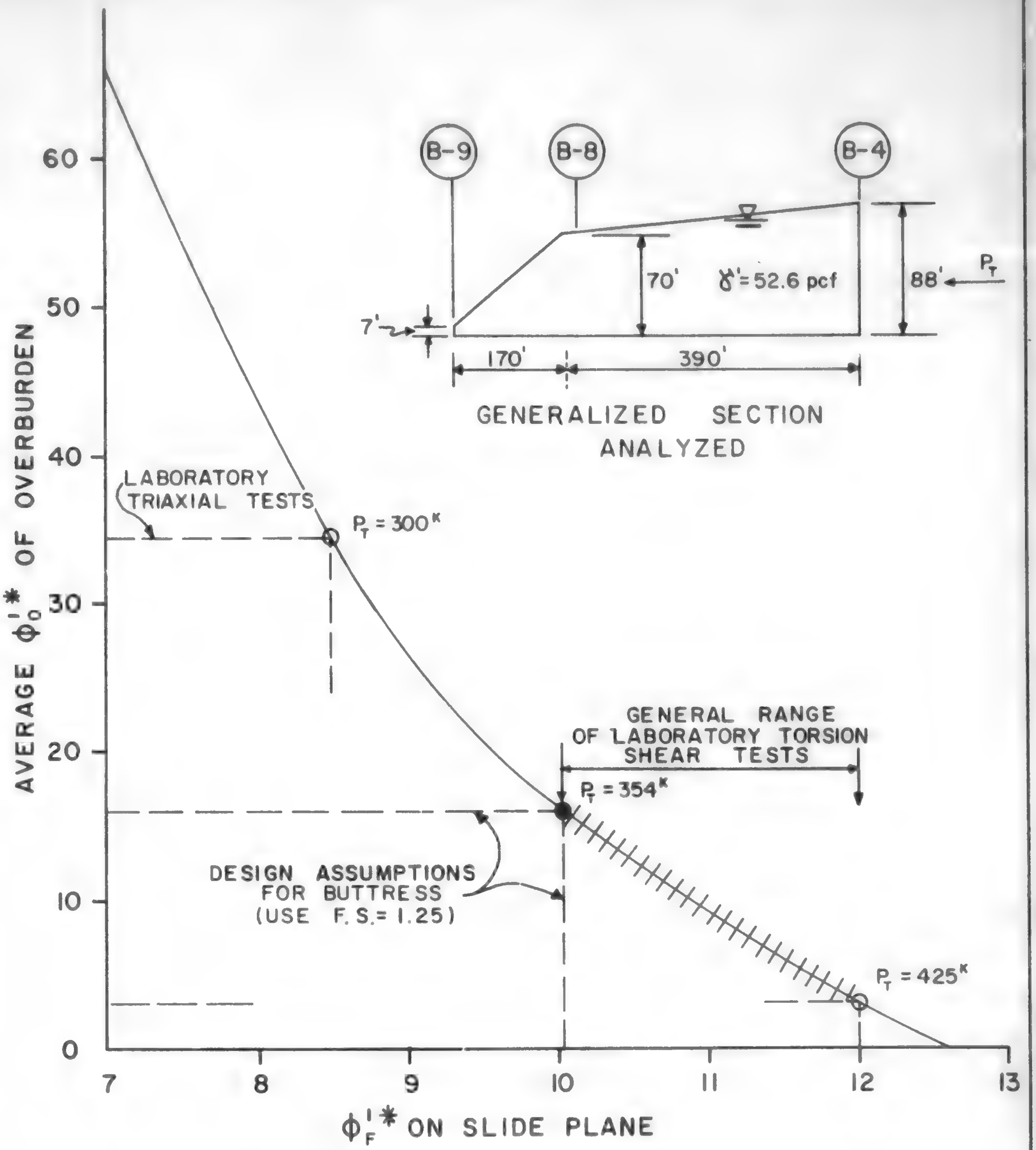
B-3 Borings by SHANNON and WILSON, April, 1969

OMSI-ZOO SLIDE
PORTLAND, OREGON

GEOLOGIC CROSS-SECTION
C-C'

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 23



* EFFECTIVE ANGLE OF SHEARING RESISTANCE

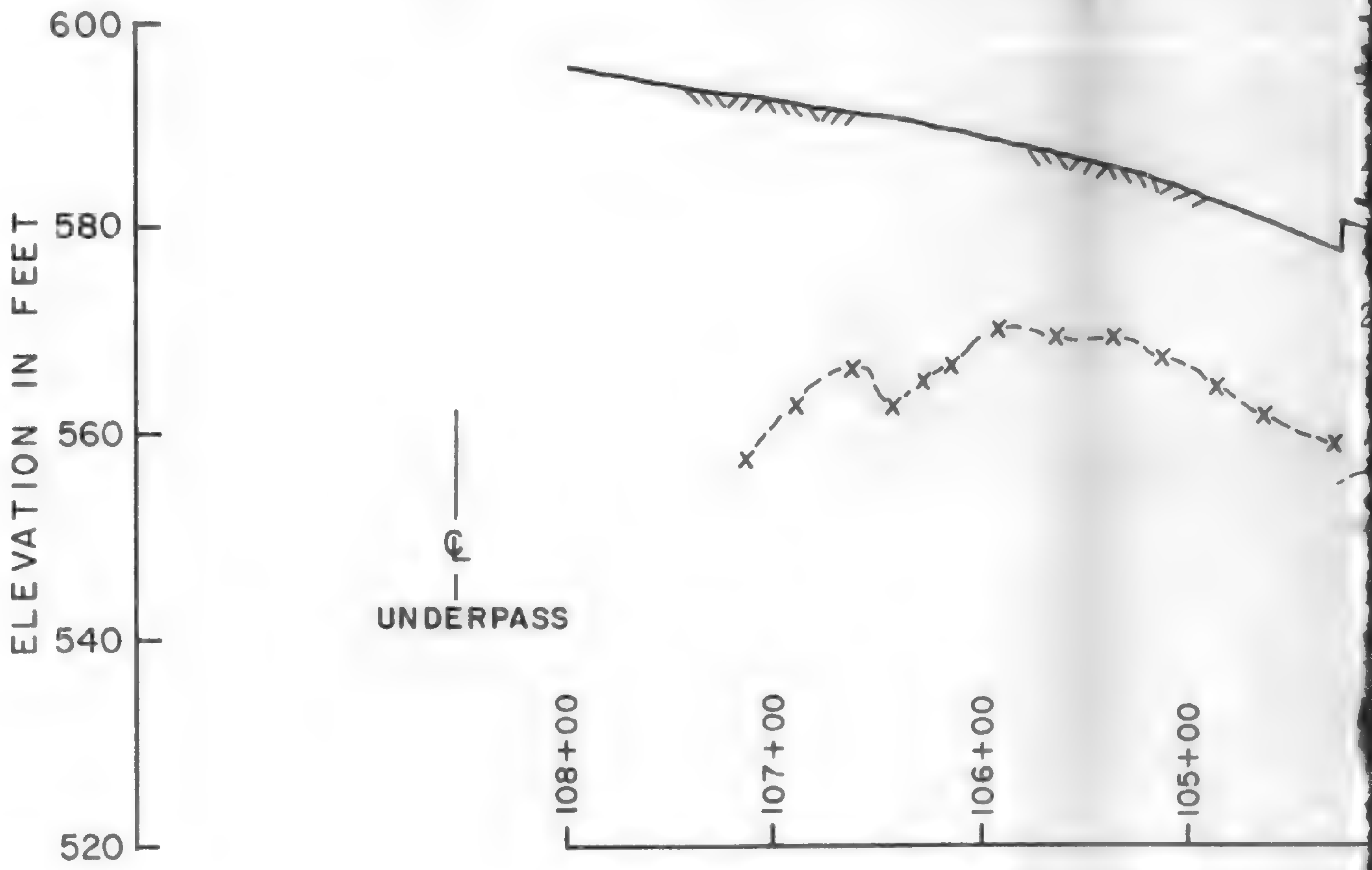
OMSI-ZOO SLIDE
PORTLAND, OREGON

RELATIONSHIP BETWEEN ϕ' VALUES IN OVERBURDEN AND FAILURE ZONE (F.S. = 1.0)

0-406 JUNE, 1969

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 24


600
580
560
540
520
ELEVATION IN FEET
℄
UNDERPASS
108+00
107+00
106+00
105+00

LEGEND

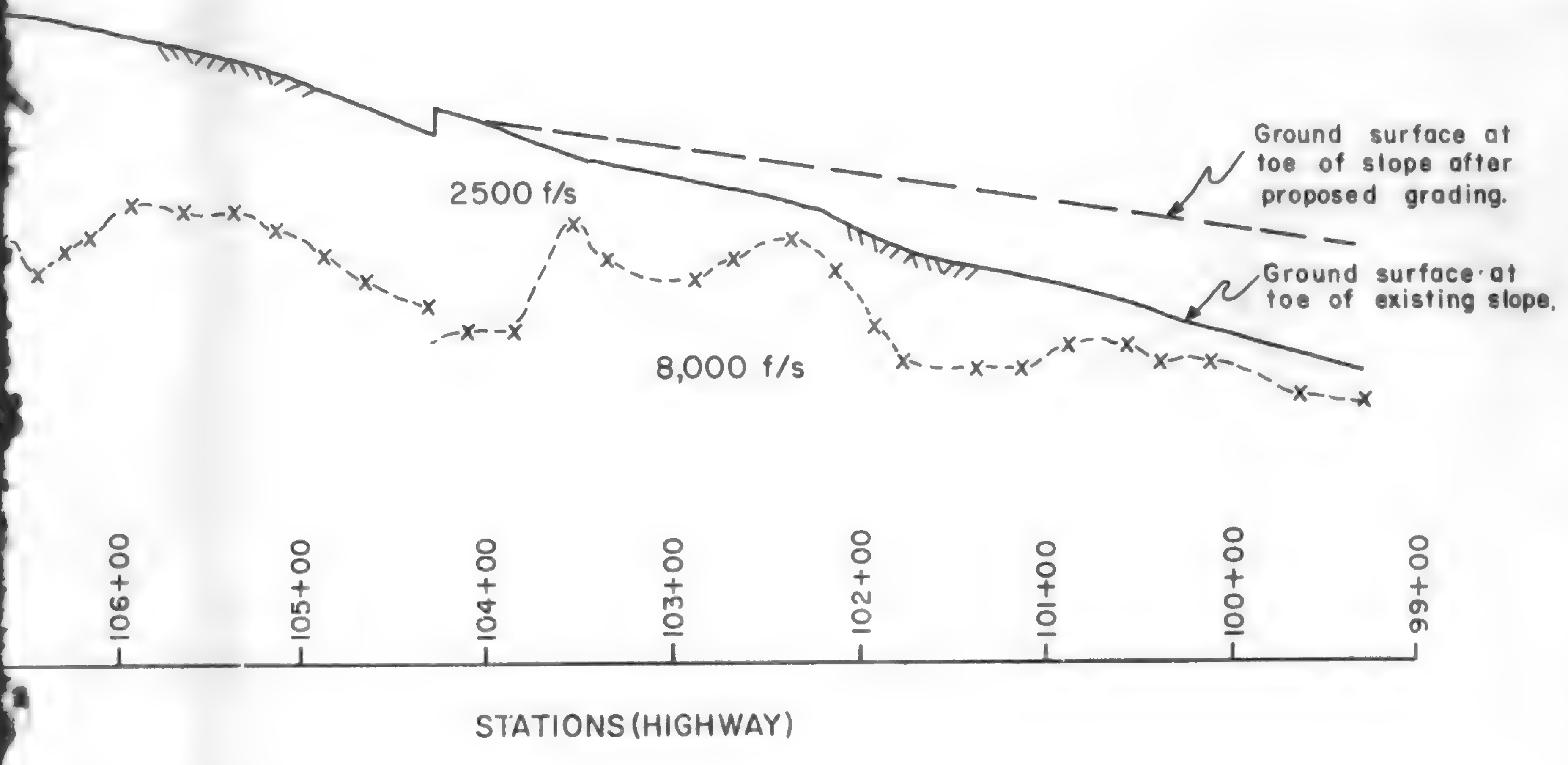
x COMPUTED DEPTH POINT (SEISMIC LINE

--- ASSUMED FORMATIONAL BOUNDARY

f/s AVERAGE SEISMIC VELOCITY

SCALE

1" = 20' VERTICAL
1" = 100' HORIZONTAL



LEGEND

DEPTH POINT (SEISMIC LINE S-3)

ORMATIONAL BOUNDARY

SEISMIC VELOCITY

SCALE

20' VERTICAL

100' HORIZONTAL

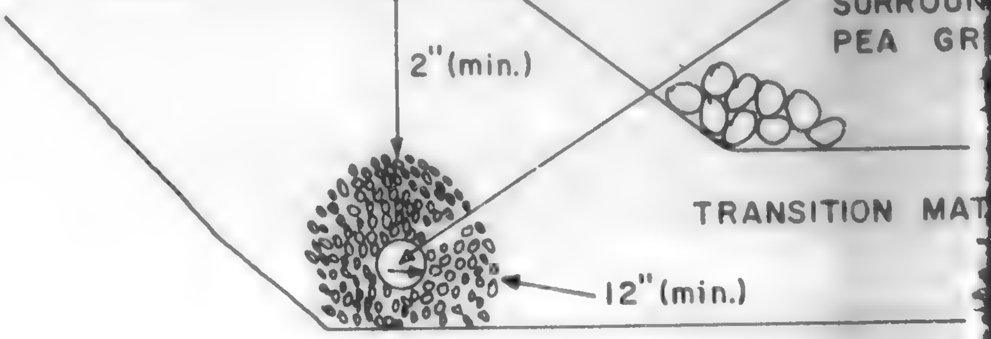
OMSI-ZOO SLIDE
PORTLAND, OREGON

GROUND SURFACE PROFILE AND SEISMIC DATA ALONG TOE OF EXISTING SLOPE

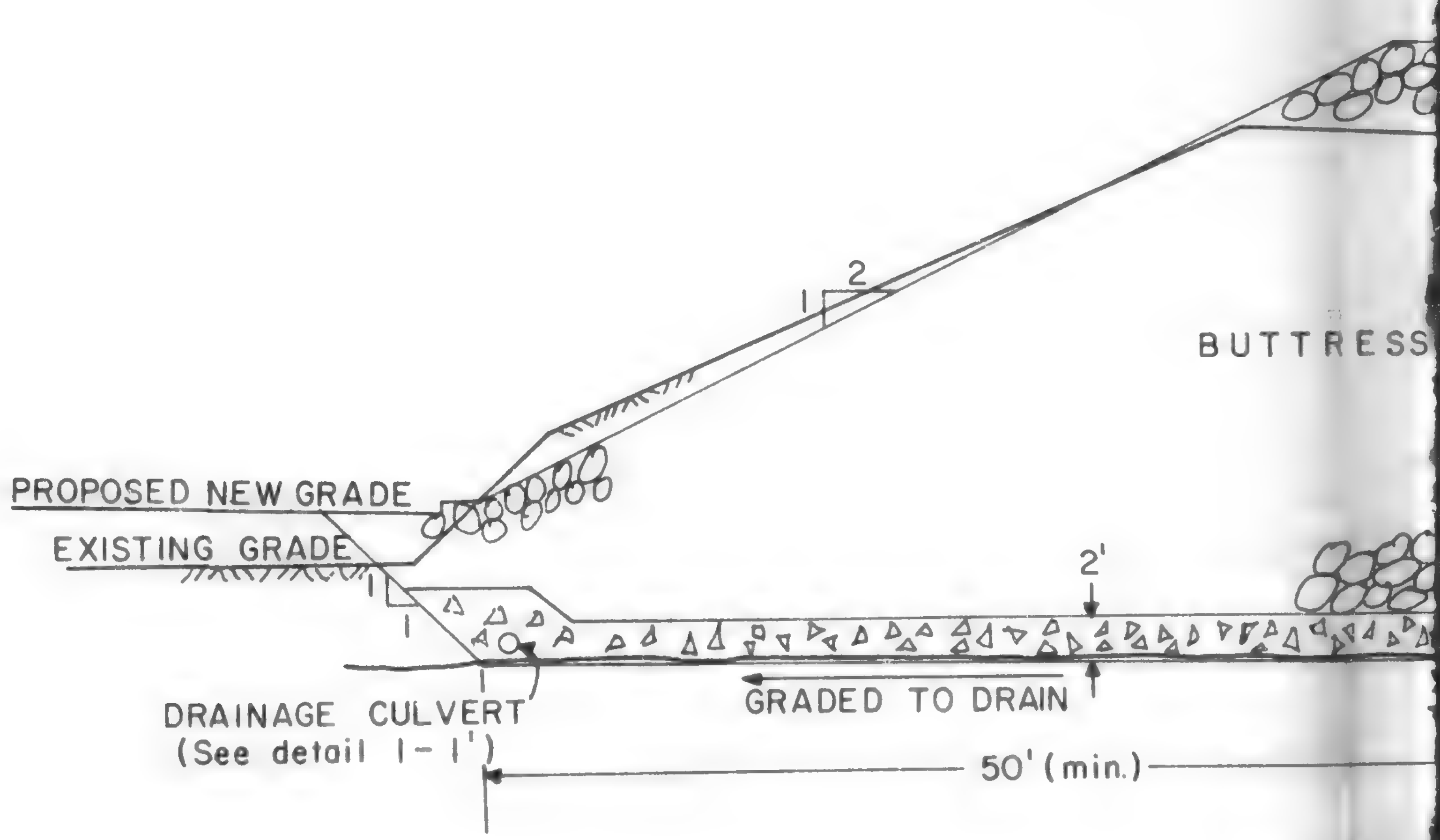
O-406 JUNE, 1969

SHANNON & WILSON, INC.
PORTLAND, OREGON

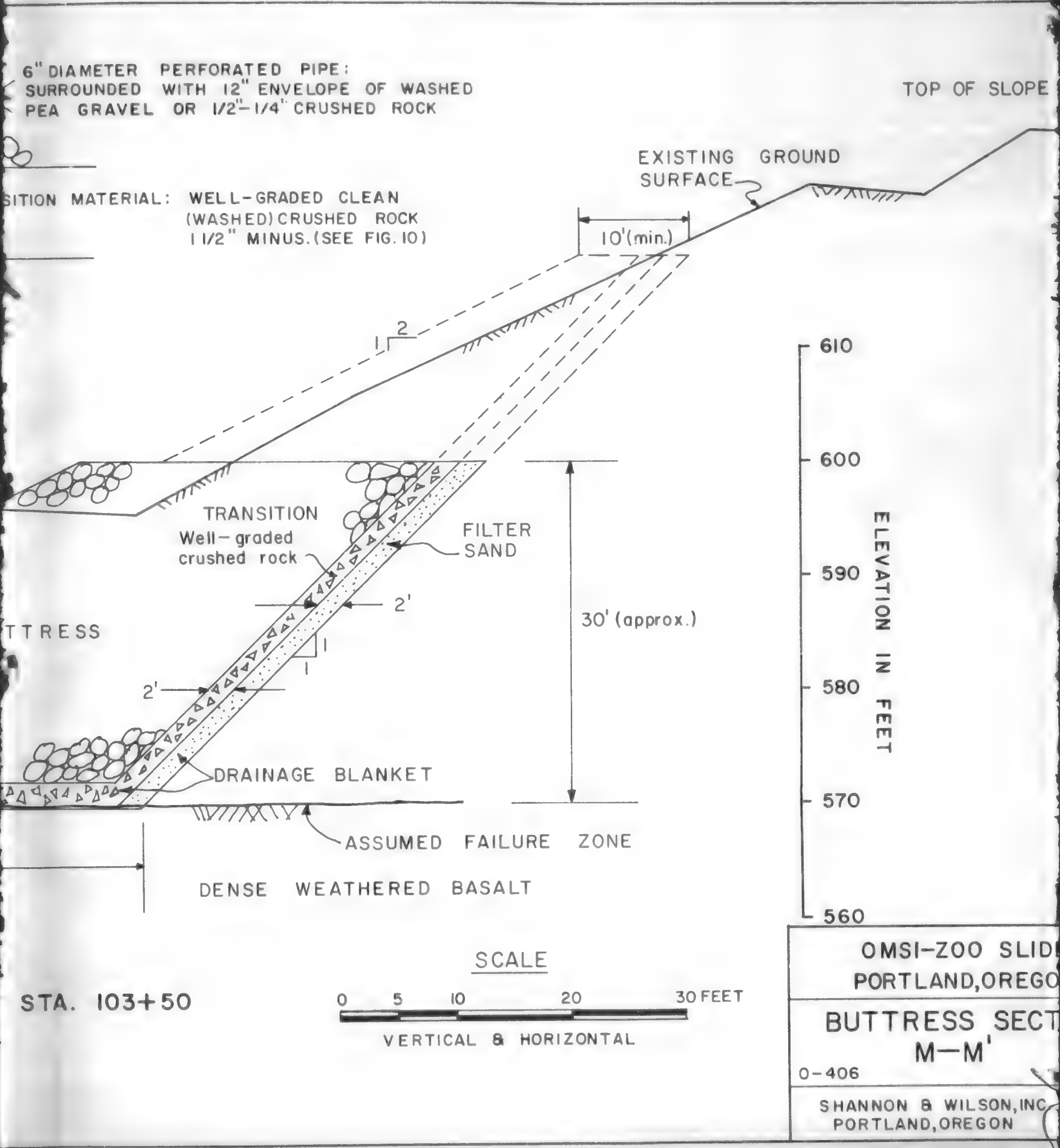
FIG.25

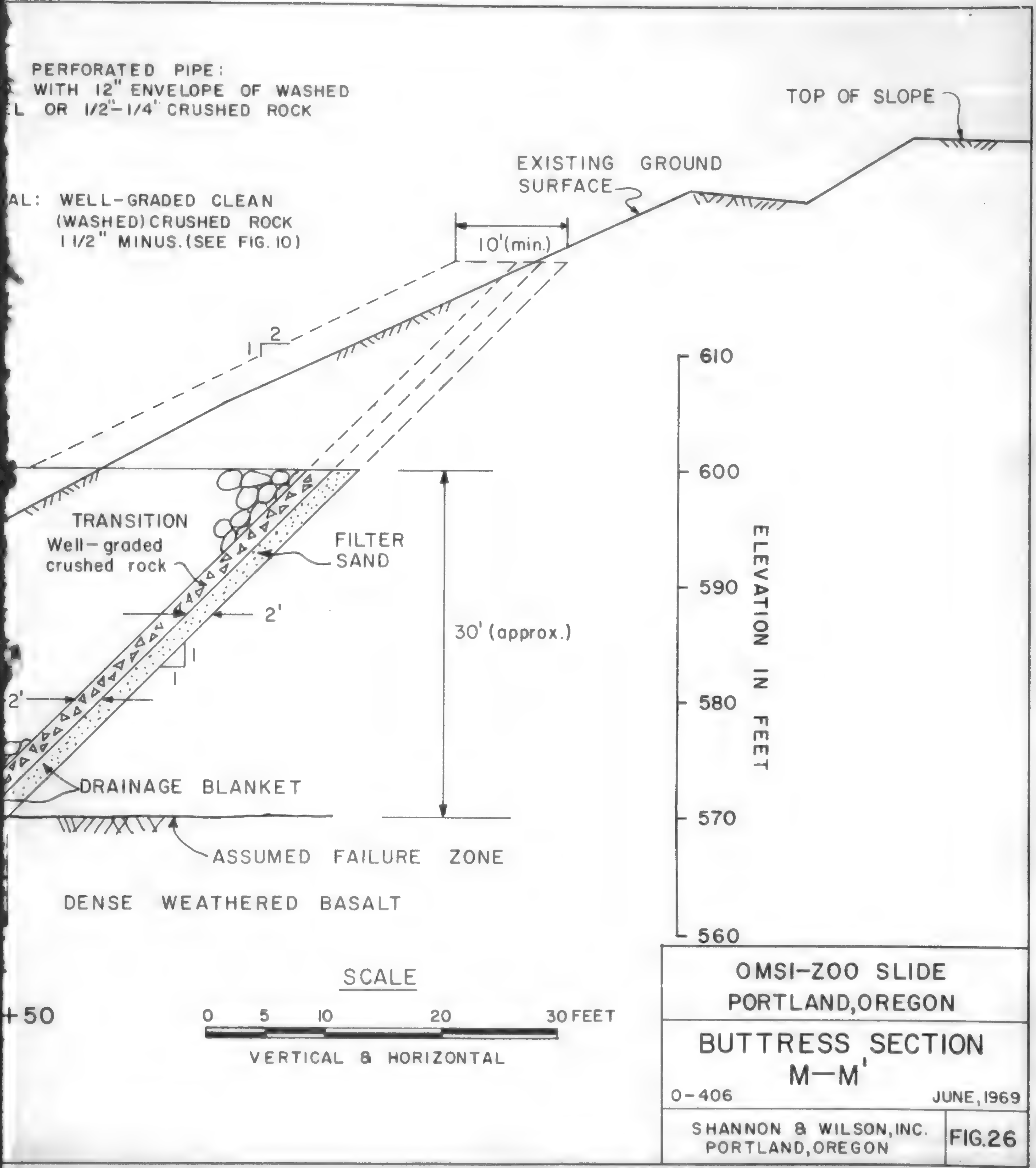

6" DIAME
SURROUN
PEA GR
2"(min.)
TRANSITION MAT
12"(min.)

DETAIL 1-1'


1
2
BUTTRESS
PROPOSED NEW GRADE
EXISTING GRADE
1
1
2'
GRADED TO DRAIN
DRAINAGE CULVERT
(See detail 1-1')
50'(min.)

STA.


6" DIAMETER PERFORATED PIPE: SURROUNDED WITH 12" ENVELOPE OF WASHED PEA GRAVEL OR 1/2"-1/4" CRUSHED ROCK
SITION MATERIAL: WELL-GRADED CLEAN (WASHED) CRUSHED ROCK 1 1/2" MINUS. (SEE FIG. 10)
TOP OF SLOPE
EXISTING GROUND SURFACE
10' (min.)
1
2
TRANSITION
Well-graded crushed rock
FILTER SAND
2'
TTRESS
1
1
2'
30' (approx.)
DRAINAGE BLANKET
ASSUMED FAILURE ZONE
DENSE WEATHERED BASALT
ELEVATION IN FEET
610
600
590
580
570
560
SCALE
0
5
10
20
30 FEET
VERTICAL & HORIZONTAL
STA. 103+50
OMSI-ZOO SLID
PORTLAND, OREGO
BUTTRESS SECT
M—M'
0-406
SHANNON & WILSON, INC.
PORTLAND, OREGON


PERFORATED PIPE:
WITH 12" ENVELOPE OF WASHED
L OR 1/2"-1/4" CRUSHED ROCK
AL: WELL-GRADED CLEAN
(WASHED) CRUSHED ROCK
1 1/2" MINUS. (SEE FIG. 10)
TOP OF SLOPE
EXISTING GROUND SURFACE
10'(min.)
1
2
TRANSITION
Well-graded crushed rock
FILTER SAND
2'
1
1
2'
DRAINAGE BLANKET
30' (approx.)
ASSUMED FAILURE ZONE
DENSE WEATHERED BASALT
610
600
590
580
570
560
ELEVATION IN FEET
+50
SCALE
0
5
10
20
30 FEET
VERTICAL & HORIZONTAL

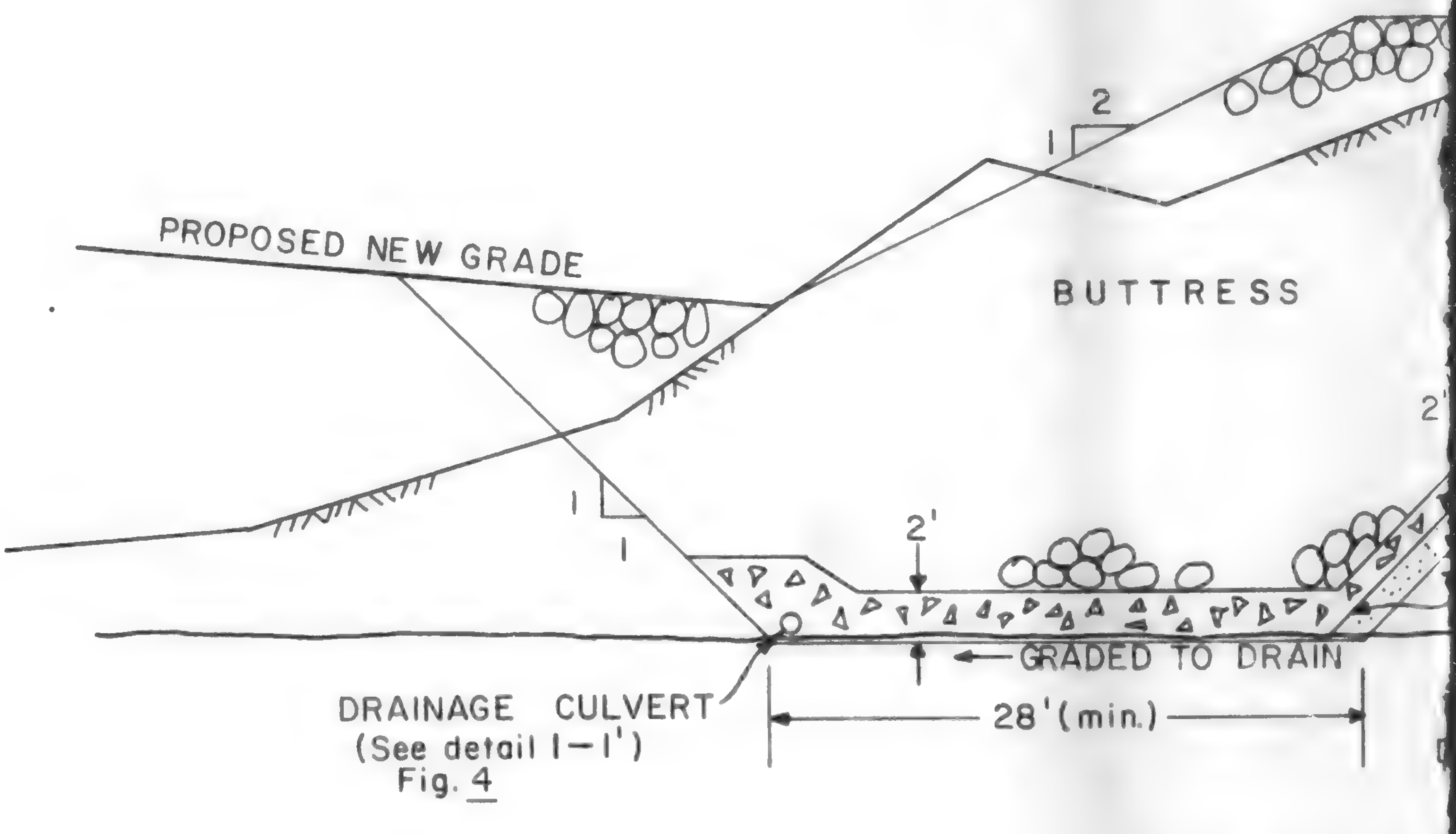
OMSI-ZOO SLIDE
PORTLAND, OREGON

BUTTRESS SECTION
M—M'

0-406
JUNE, 1969

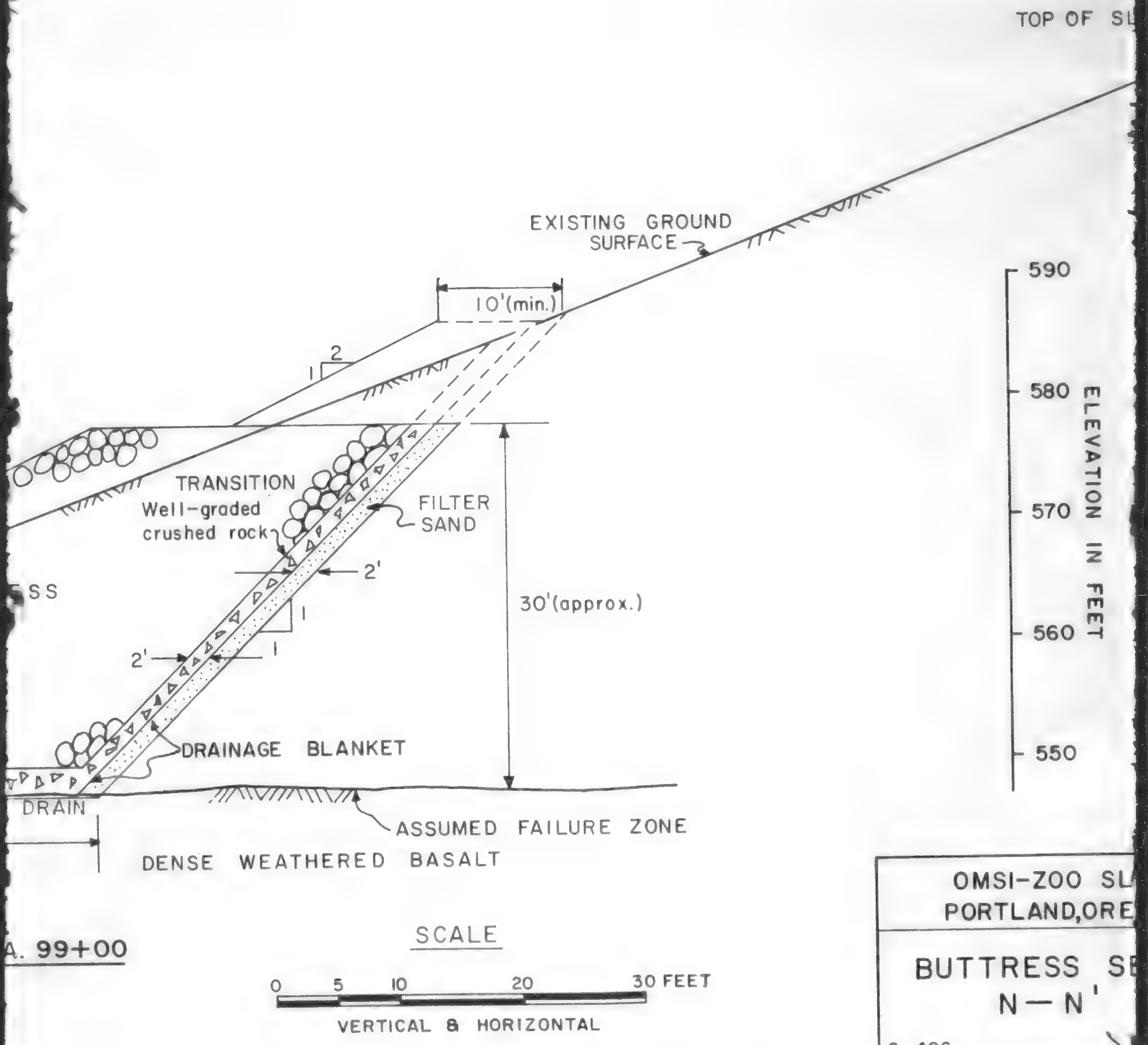
SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 26



1
2
PROPOSED NEW GRADE
BUTTRESS
2'
1
1
2'
GRADED TO DRAIN
DRAINAGE CULVERT
(See detail 1-1')
Fig. 4
28'(min.)

STA. 99+00

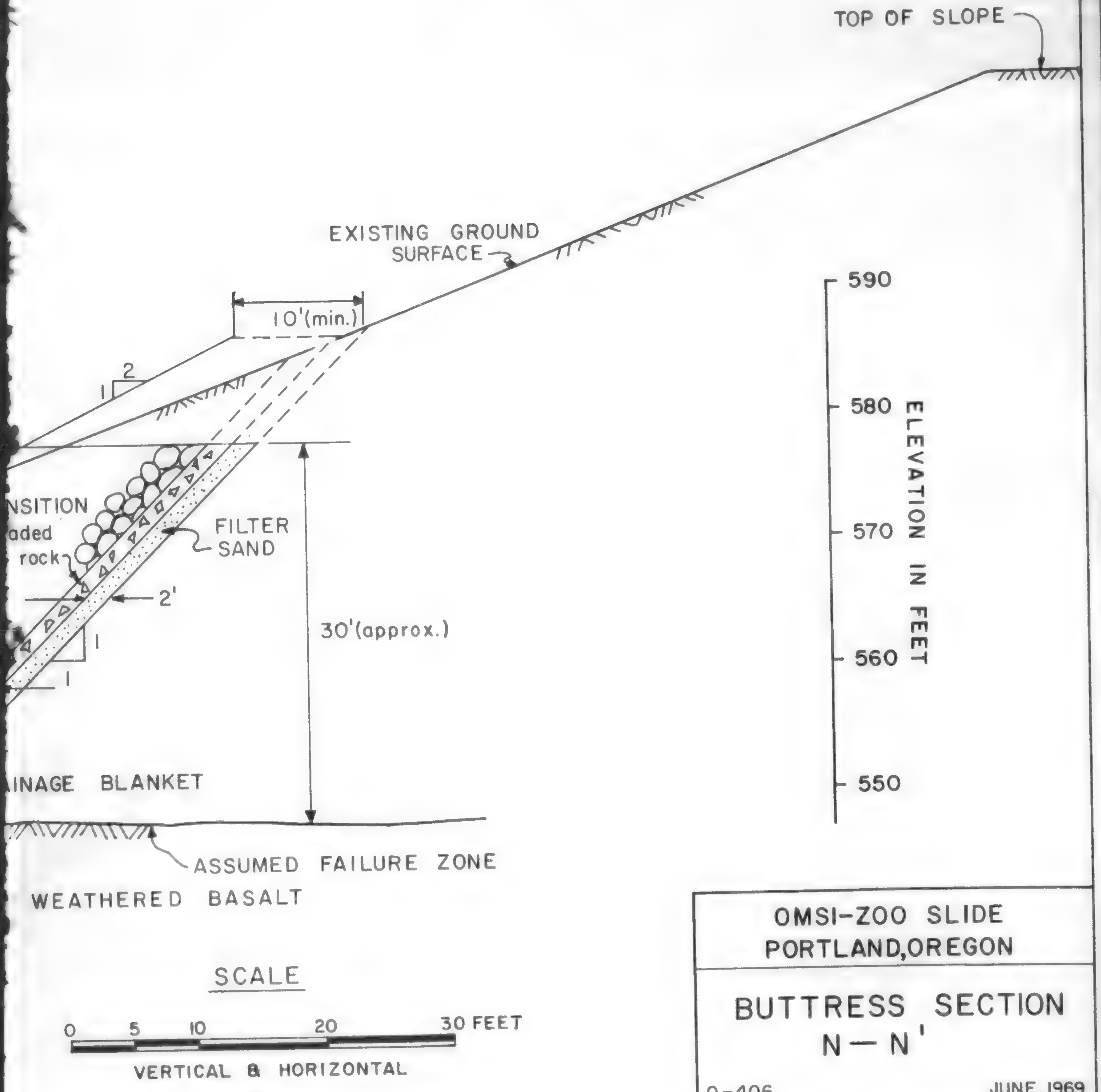

TOP OF SL
EXISTING GROUND SURFACE
10'(min.)
2
1
TRANSITION
Well-graded crushed rock
FILTER SAND
2'
1
1
2'
SS
30'(approx.)
DRAINAGE BLANKET
DRAIN
ASSUMED FAILURE ZONE
DENSE WEATHERED BASALT
590
580
570
560
550
ELEVATION IN FEET
A. 99+00
SCALE
0
5
10
20
30 FEET
VERTICAL & HORIZONTAL

OMSI-ZOO SL
PORTLAND,ORE

BUTTRESS SE
N — N'

0-406

SHANNON & WILSON,
PORTLAND, OREGON


TOP OF SLOPE
EXISTING GROUND SURFACE
10'(min.)
1
2
590
580
570
560
550
ELEVATION IN FEET
NSITION
aded
rock
FILTER SAND
2'
1
1
30'(approx.)
INAGE BLANKET
ASSUMED FAILURE ZONE
WEATHERED BASALT
SCALE
0
5
10
20
30 FEET
VERTICAL & HORIZONTAL

OMSI-ZOO SLIDE
PORTLAND, OREGON

BUTTRESS SECTION
N — N'

0-406 JUNE, 1969

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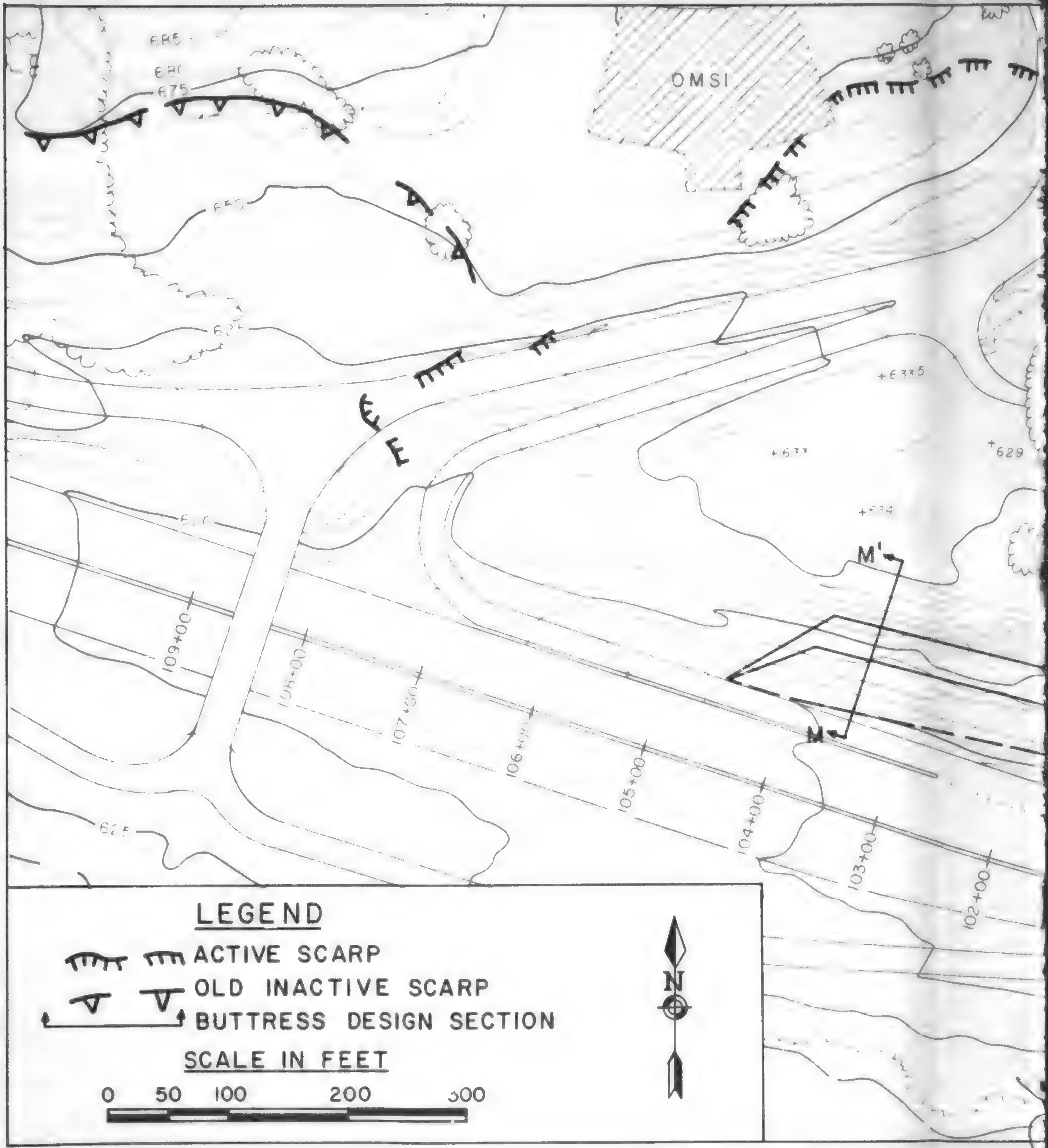
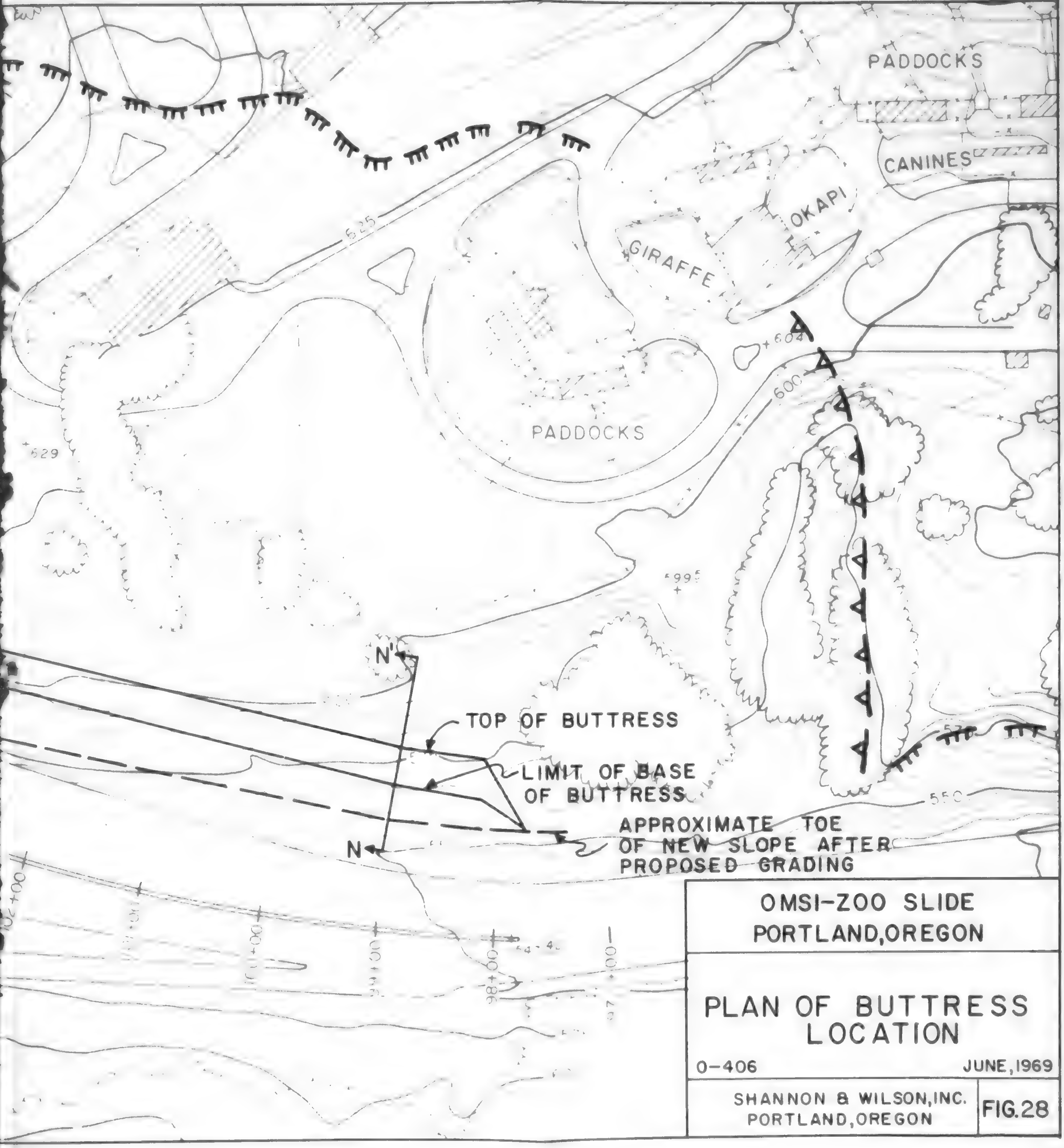
FIG. 27


685
680
675
OMSI
650
625
+633.5
+633
+629
+634
610
M'
M
109+00
108+00
107+00
106+00
105+00
104+00
103+00
102+00
625
LEGEND
ACTIVE SCARP
OLD INACTIVE SCARP
BUTTRESS DESIGN SECTION
SCALE IN FEET
0
50
100
200
300
N


PADDOCKS
CANINES
OKAPI
GIRAFFE
625
+604
600
PADDOCKS
+629
+599
N'
TOP OF BUTTRESS
LIMIT OF BASE OF BUTTRESS
APPROXIMATE TOE OF NEW SLOPE AFTER PROPOSED GRADING
N
550
98+00
97+00

OMSI-ZOO SLIDE
PORTLAND, OREGON

PLAN OF BUTTRESS LOCATION

0-406 JUNE, 1969

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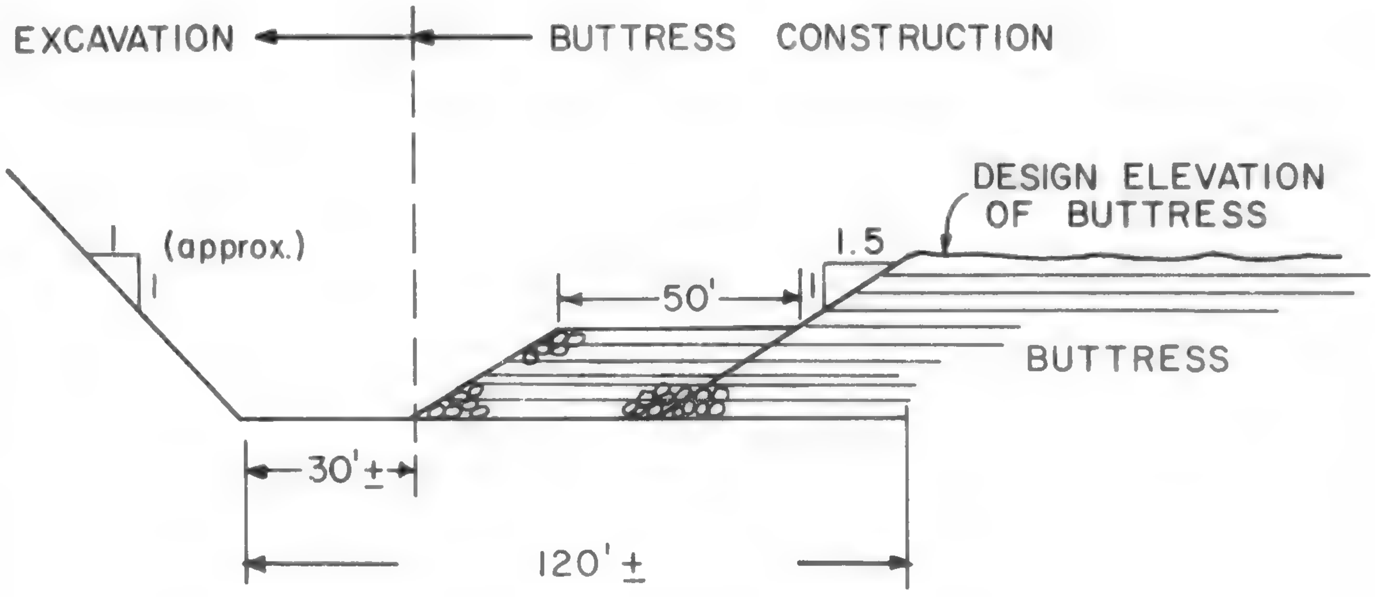
FIG. 28


EXCAVATION
BUTTRESS CONSTRUCTION
DESIGN ELEVATION OF BUTTRESS
1
1 (approx.)
1.5
1
50'
BUTTRESS
30'±
120'±

The sketch defines the extent of the width of the excavation of 120 feet.

OMSI-ZOO SLIDE
PORTLAND, OREGON

SKETCH OF BUTTRESS CONSTRUCTION

JULY, 1969
0-406

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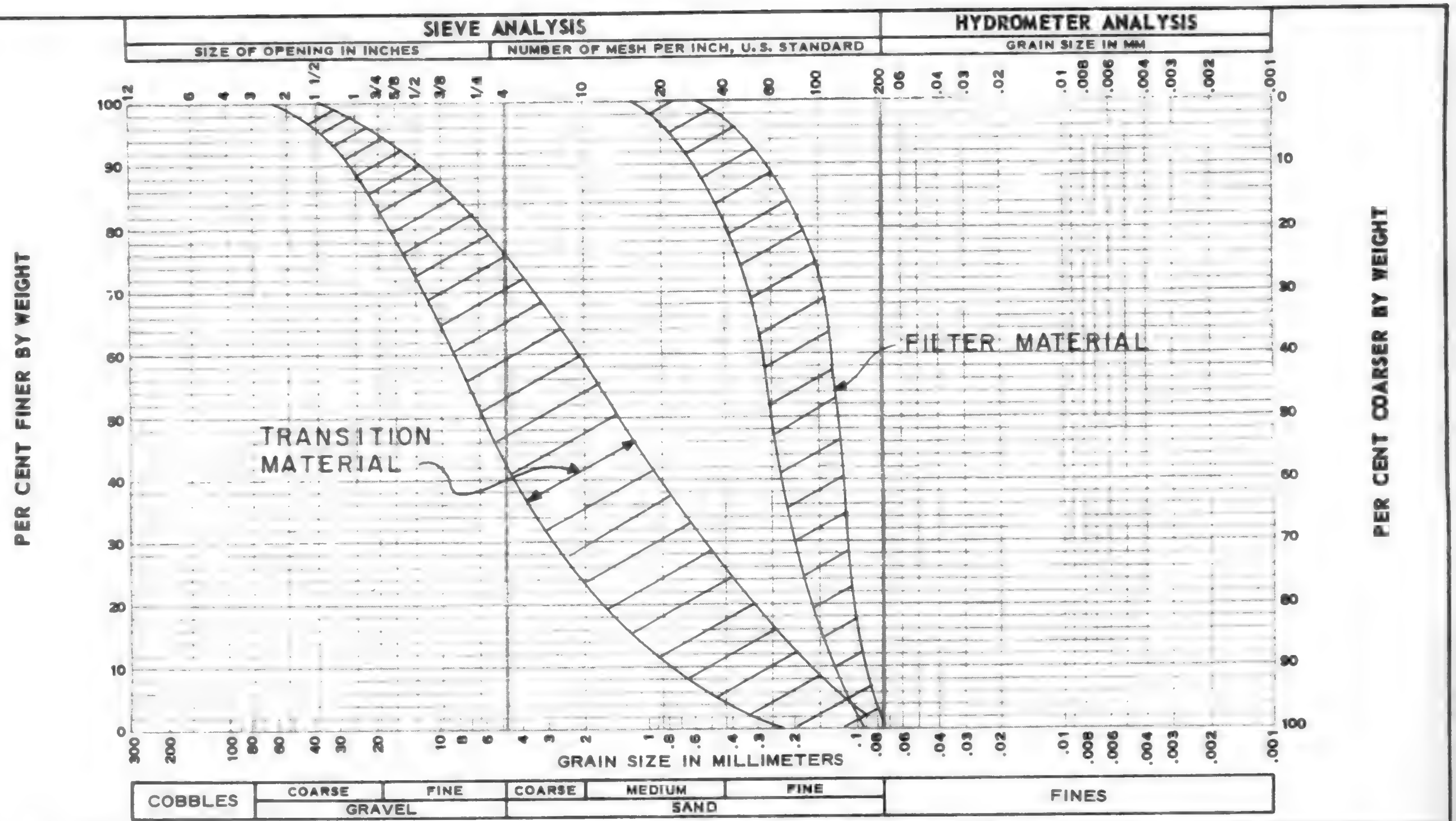
FIG. 29



SAMPLE NO.	DEPTH -FT.	U.S.C.	CLASSIFICATION	NAT. W.C. %	LL	PL	PI

GRAIN SIZE CLASSIFICATION

DRAINAGE BLANKET MATERIALS

JULY, 1969 0-406

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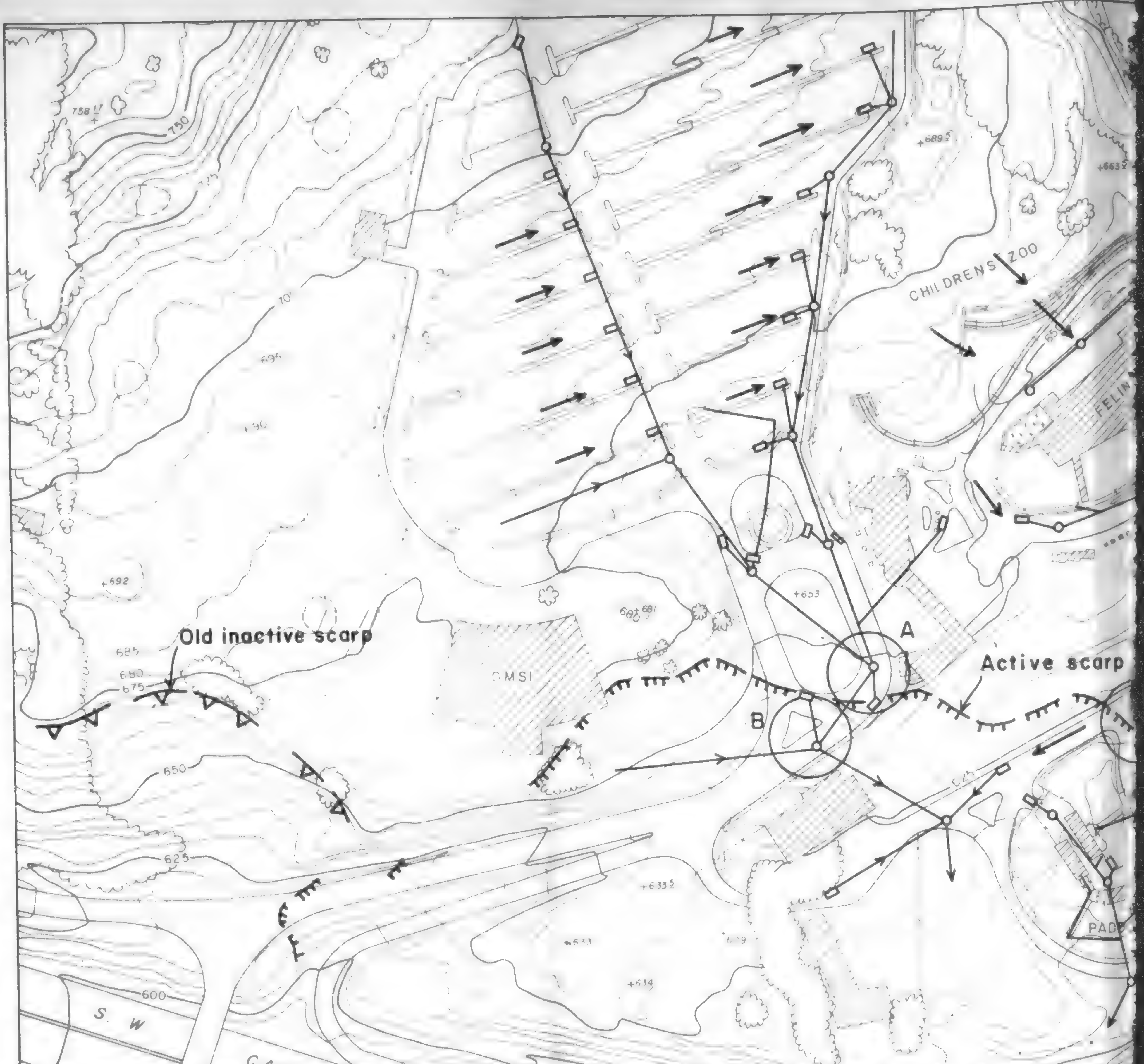
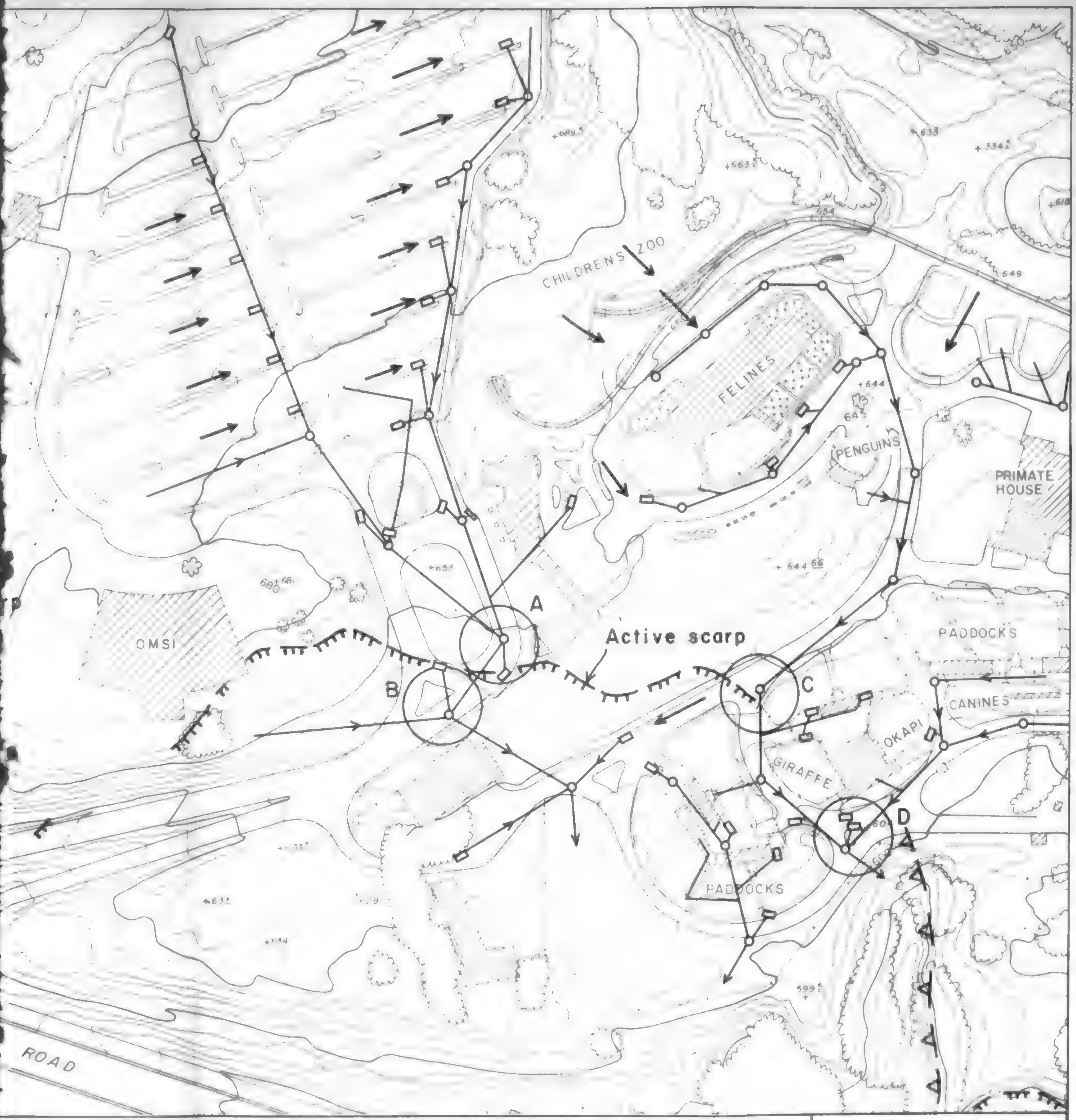
SOIL MECHANICS & FOUNDATION ENGINEERS

FIG. 30


758
750
+689.5
+663.5
CHILDRENS ZOO
FELIN
695
690
+692
+653
681
Old inactive scarp
685
680
675
CMSI
A
Active scarp
B
650
625
+633.5
600
PAD
S. W. CANYON ROAD
LEGEND
○ Manhole
▭ Catch basin
Direction of storm runoff
Sewer line
N
SCALE
0 50 100 200 300 400


CHILDRENS ZOO
FELINES
PENGUINS
PRIMATE HOUSE
PADDOCKS
CANINES
OKAPI
GIRAFFE
PADDOCKS
OMSI
Active scarp
A
B
C
D
ROAD
+689.5
+663.5
+633
+334.5
654
649
650
+644
645
+653
+644.66
599.5
+632

n runoff

N
SCALE
0 50 100 200 300 400 FEET

OMSI-ZOO SLIDE
PORTLAND, OREGON

SEWER NETWORK

0-406 MAY, 1969

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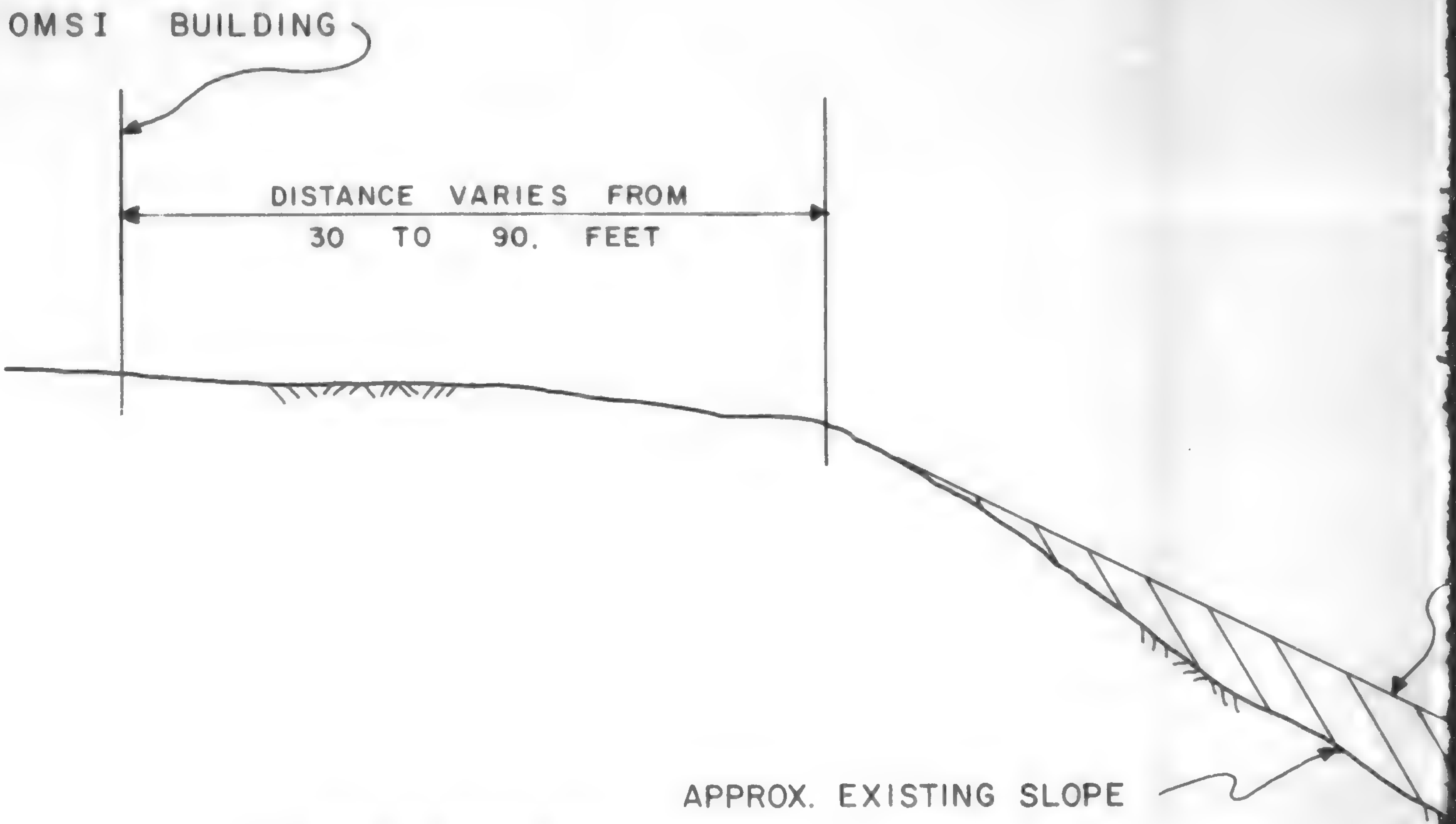
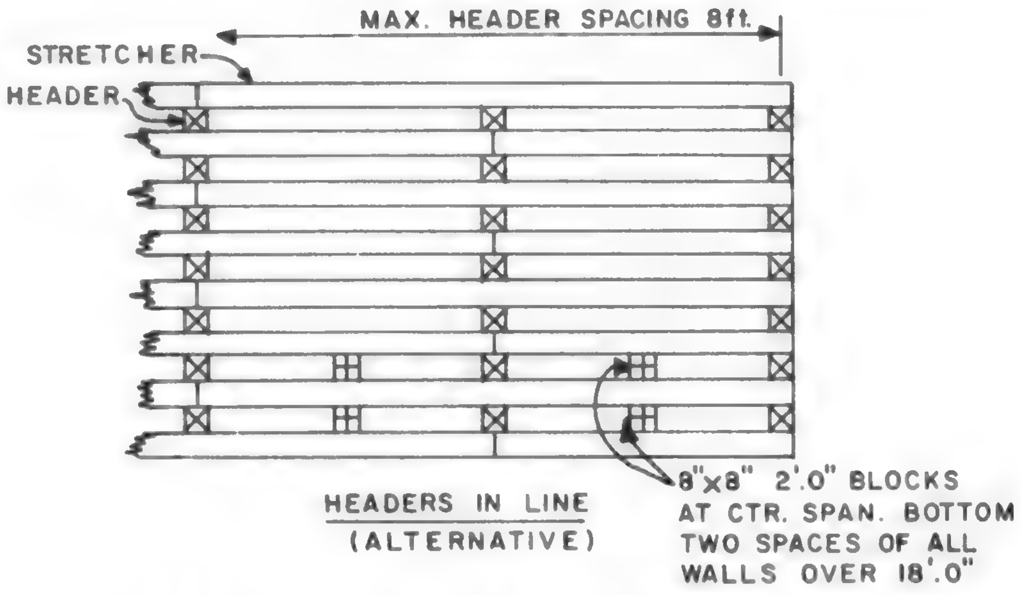
PORTLAND, OREGON

FIG. 31

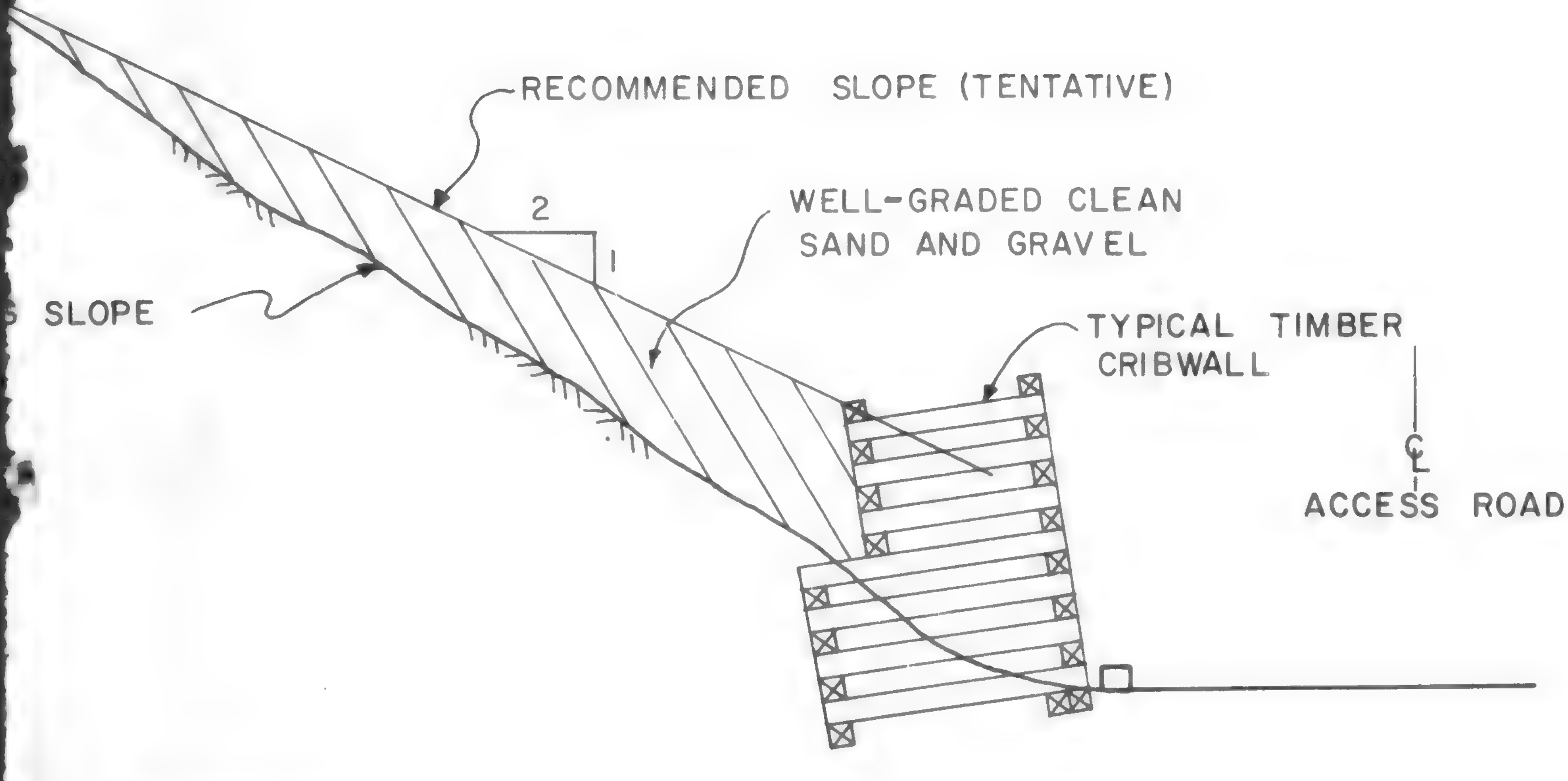

OMSI BUILDING
DISTANCE VARIES FROM 30 TO 90. FEET
APPROX. EXISTING SLOPE


MAX. HEADER SPACING 8ft.
STRETCHER
HEADER
HEADERS IN LINE (ALTERNATIVE)
8"x8" 2'.0" BLOCKS AT CTR. SPAN. BOTTOM TWO SPACES OF ALL WALLS OVER 18'.0"

TYPICAL ELEVATION VIEW

CROSS-SECTION 1—1

NOTE: THE EXACT CONFIGURATION, I.E. HEIGHT AND LOCATION, AND OTHER DESIGN DETAILS OF THE CRIB WALL REQUIRE ADDITIONAL ENGINEERING STUDY


RECOMMENDED SLOPE (TENTATIVE)
2
1
WELL-GRADED CLEAN SAND AND GRAVEL
S SLOPE
TYPICAL TIMBER CRIBWALL
C L
ACCESS ROAD

OSS– SECTION 1–1

SCALE
0 5 10 20 30 FEET
VERTICAL & HORIZONTAL

TION, I.E.
, AND OTHER
HE CRIB
NAL

OMSI-ZOO SLIDE
PORTLAND, OREGON

CROSS SECTION 1-1

POSSIBLE REMEDIAL
WORK BELOW OMSI

0-406
JUNE, 1969

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 32

APPENDIX A

OMSI-ZOO SLIDE
GEOPHYSICAL INVESTIGATION

The geophysical investigation conducted by Geo-Recon, Inc. of Seattle, Washington, consisted of a seismic refraction survey along three traverses, two of them extending upslope from the toe of the slide northerly for a distance of about 1275 feet (S-1 and S-2) and the other traverse located along the northern edge of the Canyon Road highway for a distance of 1000 feet (S-3).

The purpose of the seismic investigation was to provide all of the detailed information that could be obtained by the seismic method, with special emphasis on the depths to firm, unweathered bedrock. In order to produce as much detail as possible, especially at relatively shallow depths, seismic detectors were closely spaced along the traverses, with a maximum spacing of 25 feet. Depths to the refracting srufaces were determined beneath each detector wherever possible. Seismic shock waves were generated by falling weights and by small explosive charges.

The results of the seismic investigation are shown on the seismic velocity profiles, Fig. 1A. Five subsurface zones were identified by their characteristic average velocities. The classification of these zones, shown below, is based primarily upon a comparison between the seismic and boring data, except for the deepest horizon which was not reached by drilling.

VELOCITY feet/second	SUGGESTED CLASSIFICATION
800	Loose, shallow surface layer of silt.
2500	Loose, silty-clayey material; possible disturbed material.

VELOCITY feet/second	SUGGESTED CLASSIFICATION
4500-5250	Clay (decomposed basalt).
7000-8000	Firm material, probably weathered basalt.
12,500	Unweathered basalt.

The 800 f/s surface layer is generally quite shallow, but appears to be deeper along the active portion of the slide where it has a maximum thickness of about 15 feet. It is not certain whether this material is related to the so-called "seismic weathered layer" or represents a surface layer of silt.

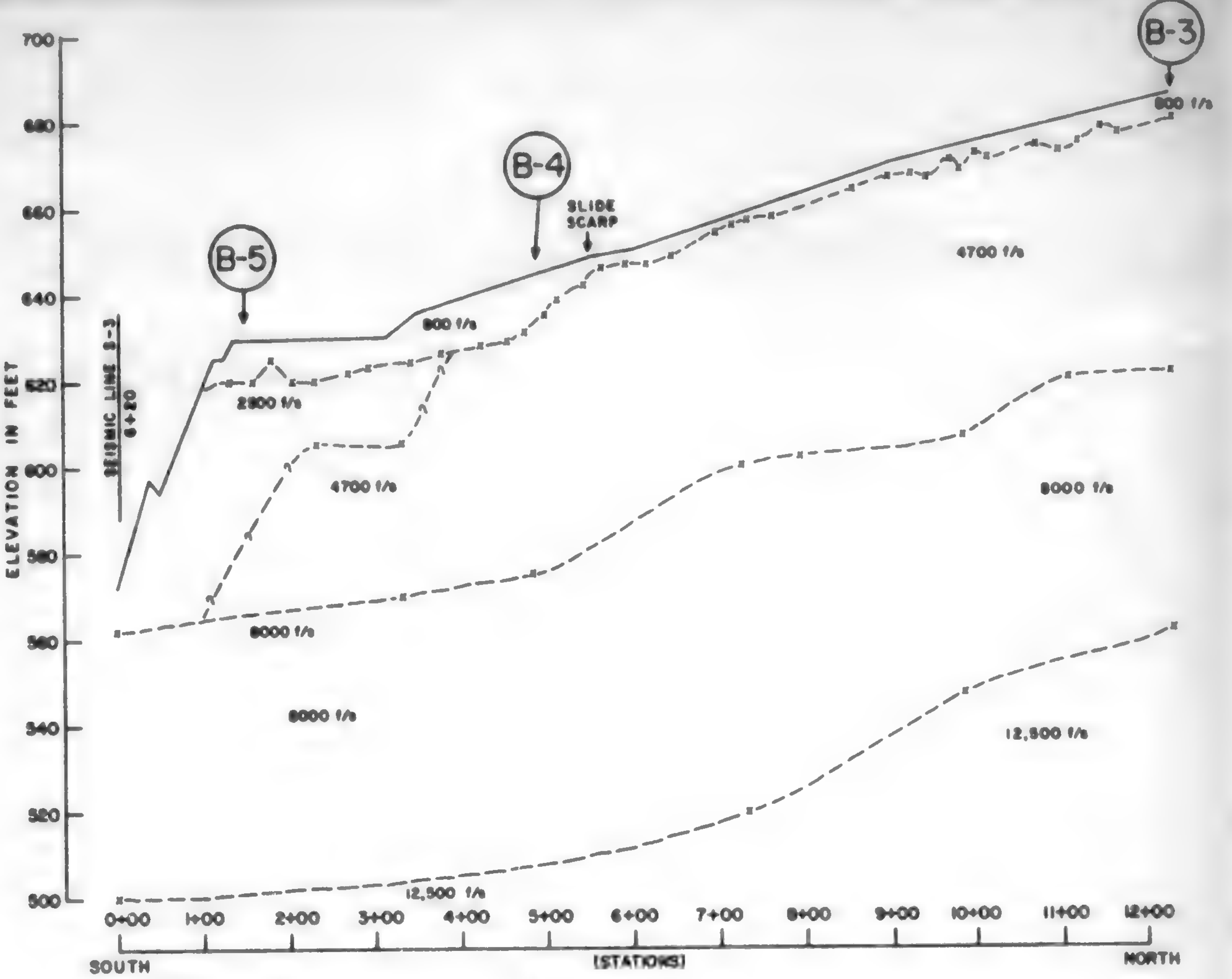
The 2500 f/s zone was found only along the lower portions of traverse S-1 (western traverse) and S-2 (eastern traverse) but it occurred throughout the full length of S-3, located along the highway. It was found to be thickest along the toe of the slide on S-1 although its thickness could not be exactly determined in this area. Its low velocity, coupled with its position at the toe of the slide, suggests that this is a highly disturbed, unconsolidated material.

An uphole velocity test was made to a depth of about 75 feet at Station 2+57 on S-2. At this location the average velocity of materials between depths 10 feet and 75 feet was 4750 f/s. The log of boring B-8, located about 80 feet south of the uphole drill hole station, shows a micaceous, clayey silt and clay from 6 feet to 26 feet and clay from 26 feet to 48 feet depths. Apparently the velocity of the silty clay and clay is identical and, for this reason, the material is classified simply as clay. This silt-clay zone was found to extend throughout both traverses S-1 and S-2 but was not detected along S-3.

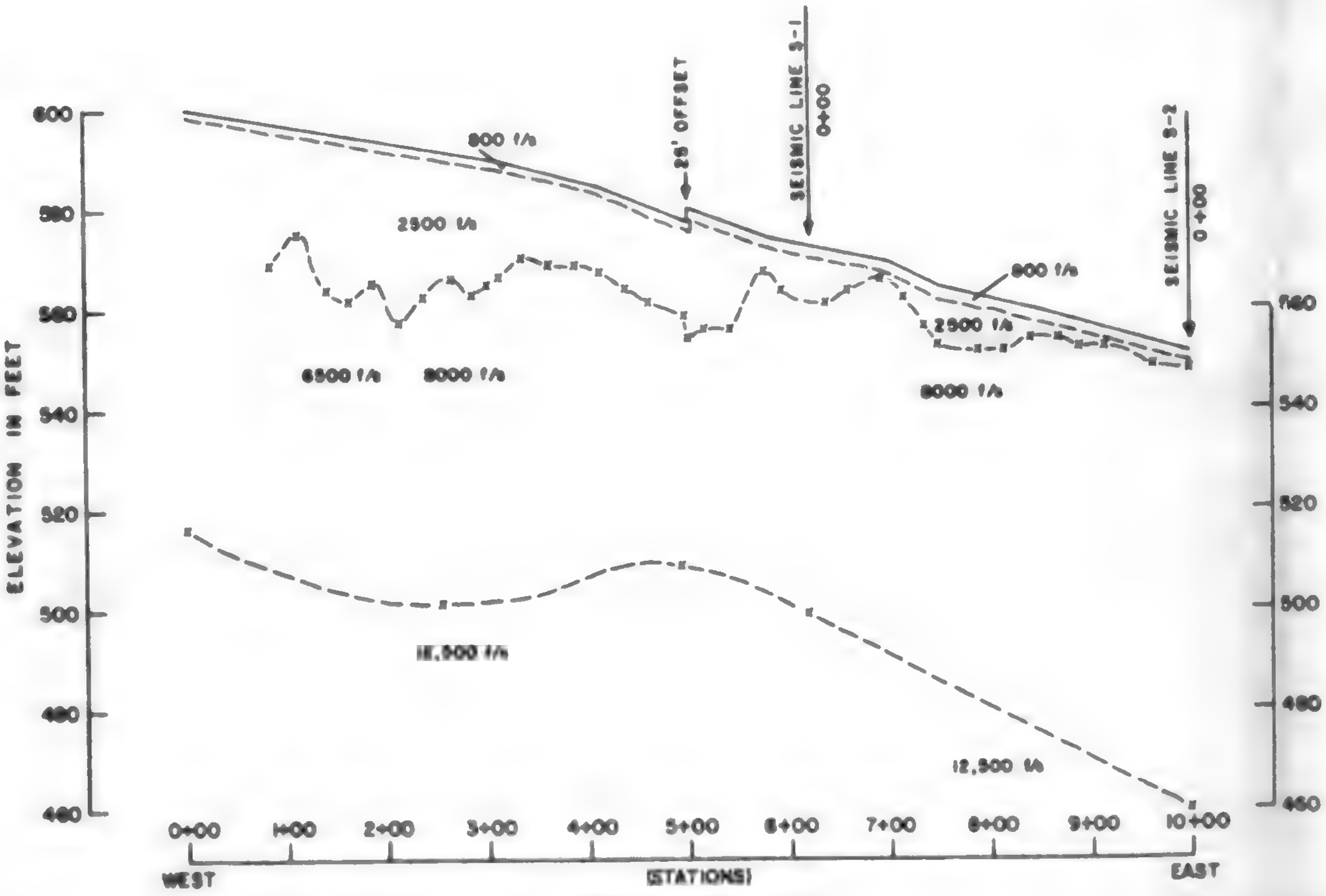
A firm zone, having a velocity range from 7000 to 8000 f/s, was detected along all traverses and coincides with a high blow-count material found at depth in most of the borings. The drill logs indicate that this zone consists of weathered basalt and most of the borings bottomed in this material. In seismic line, S-2, the upper surface of the 8000 f/s velocity material coincides, in general, with the zone of failure as detected by the Slope Indicator installations. On the other hand, such a correlation was not present in S-1, except near the toe of the slide. The seismic refractions from this higher velocity material show that it has a uniform, gently sloping surface towards the canyon.

The deepest material detected by the seismic investigation, velocity 12,500 f/s, was found along all traverses but its depths could be determined only at widely separated points. The high velocity of this zone is more or less "standard" for unweathered basalt. It will be noted that the interface between the weathered and unweathered basalt has about the same gentle slope towards the canyon as does the surface of the weathered basalt.

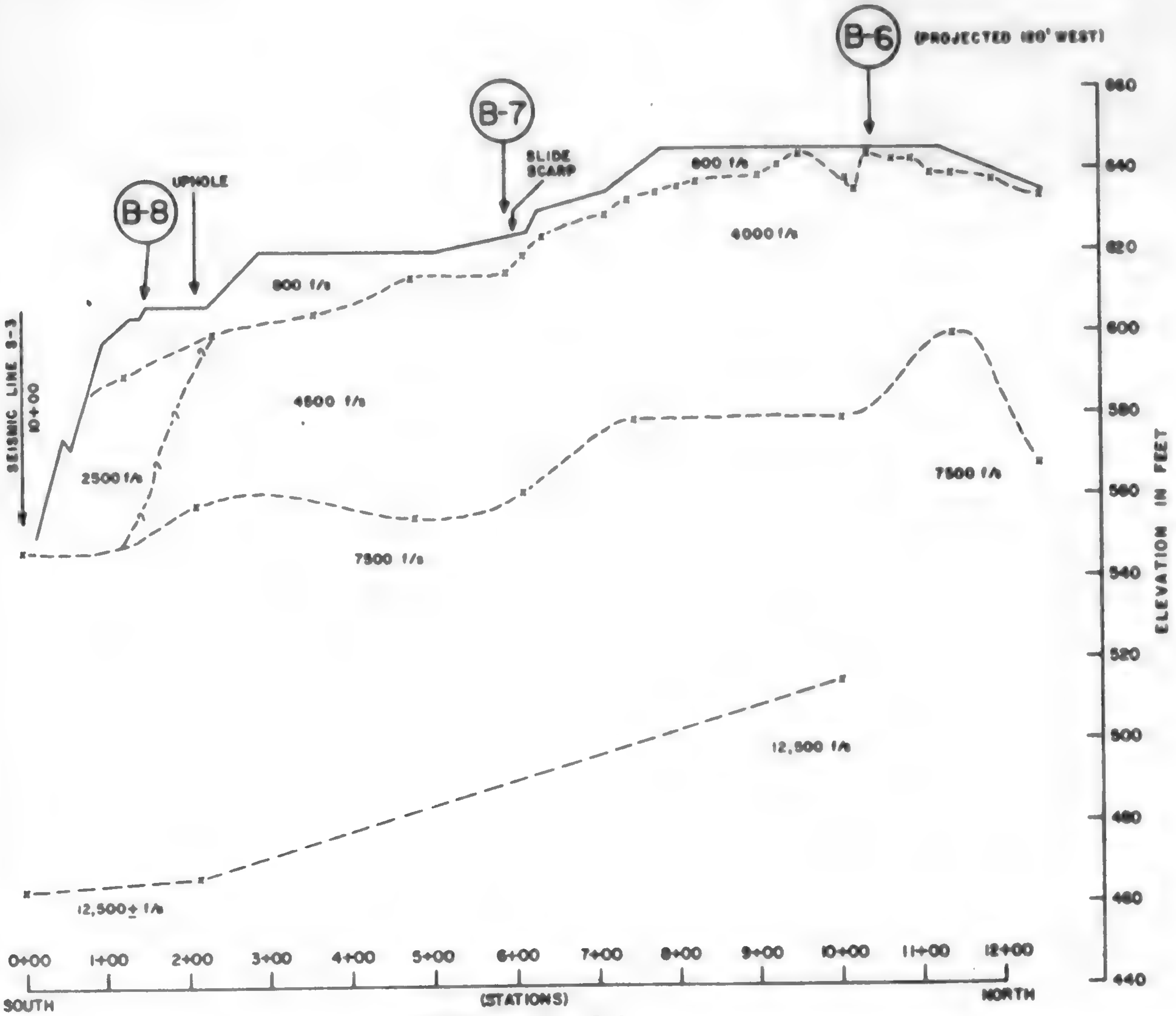
In summary, the geophysical investigation presented herein provides significant subsurface information between borings and supplemental information concerning the sequence of subsurface materials with depth. The change in material characteristics as reflected by velocity changes correlates well in some areas with the material involved in the slide and the more competent material below, as shown in the Geologic Cross-Sections in the main report.



SEISMIC LINE S-1
(WEST)



SEISMIC LINE S-3



SEISMIC LINE S-2
(EAST)

LEGEND

- x COMPUTED DEPTH POINT
- – – – ASSUMED FORMATIONAL BOUNDARY
- f/s AVERAGE SEISMIC VELOCITY

SUGGESTED CLASSIFICATION

VELOCITY f/s	MATERIAL
800	LOOSE SURFACE LAYER (SILT-CLAY)
2500	LOOSE SLIDE DEBRIS
4000-4700	CLAY
6800-8000	ALTERED VOLCANICS
12,500+	FIRM UNALTERED VOLCANICS

SCALE IN FEET

0
50
100
200
300
HORIZONTAL
0
10
20
40
60
VERTICAL

OMSI–ZOO SLIDE
PORTLAND, OREGON

SEISMIC PROFILES

S-1, S-2, S-3

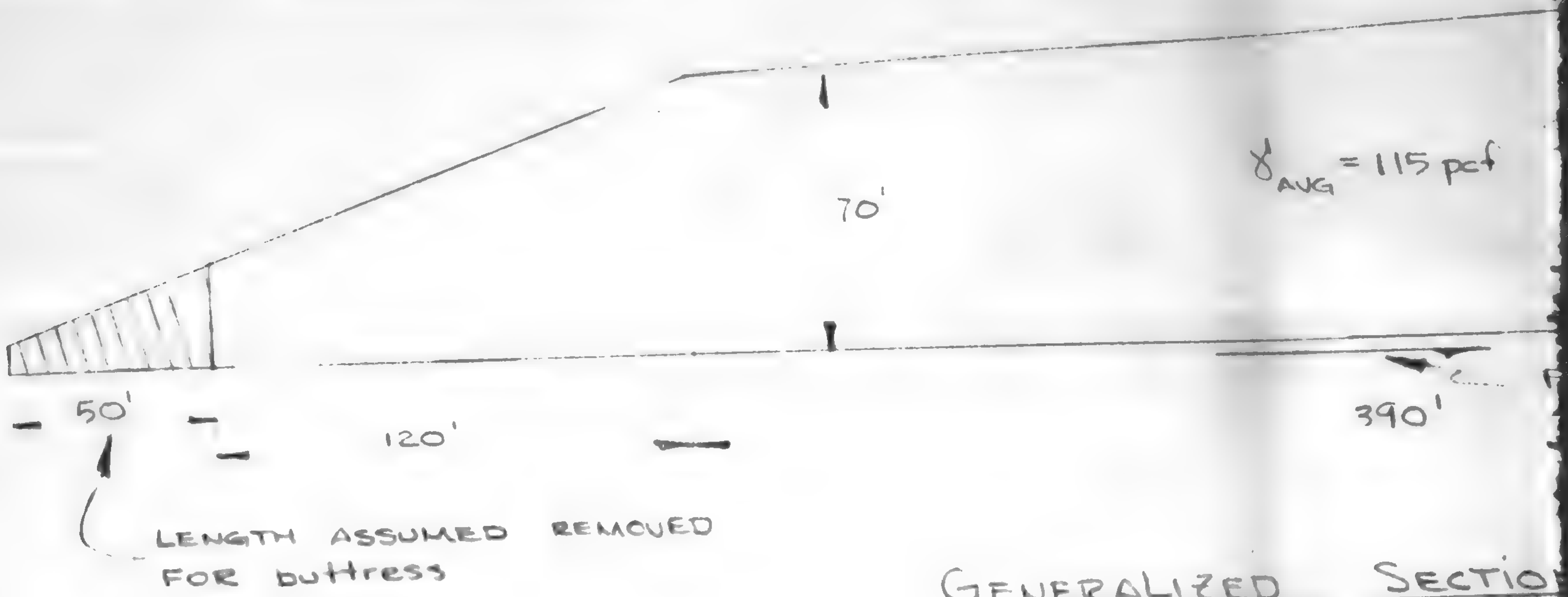
0-406

APRIL, 1980

GEO–RECON, INC.
SEATTLE, WASHINGTON

FIG. A-1

APPENDIX B


$\gamma_{AVG} = 115$ pcf
70'
50'
120'
390'
LENGTH ASSUMED REMOVED FOR buttress

GENERALIZED SECTIO

RESISTING FORCES

$$\Sigma F_R = \left[H_{1_{AVG}}(L_1) + H_{2_{AVG}}(L_2)\right] \gamma' \tan \phi'_F$$

$$= \left[\left(\frac{27' + 70'}{2}\right)(120') + \left(\frac{70+88}{2}\right)(390')\right](115 - 62.4)\,\text{pcf}\,(\tan 10^\circ)$$

$$= \left[5{,}800\ \text{FT}^2 + 30{,}800\ \text{FT}^2\right] 9.28\ \#/\text{FT}^2$$

$$= 340{,}000\ \frac{\#}{\text{FT}} = \underline{340\ \text{Kips}/\text{FT}}$$

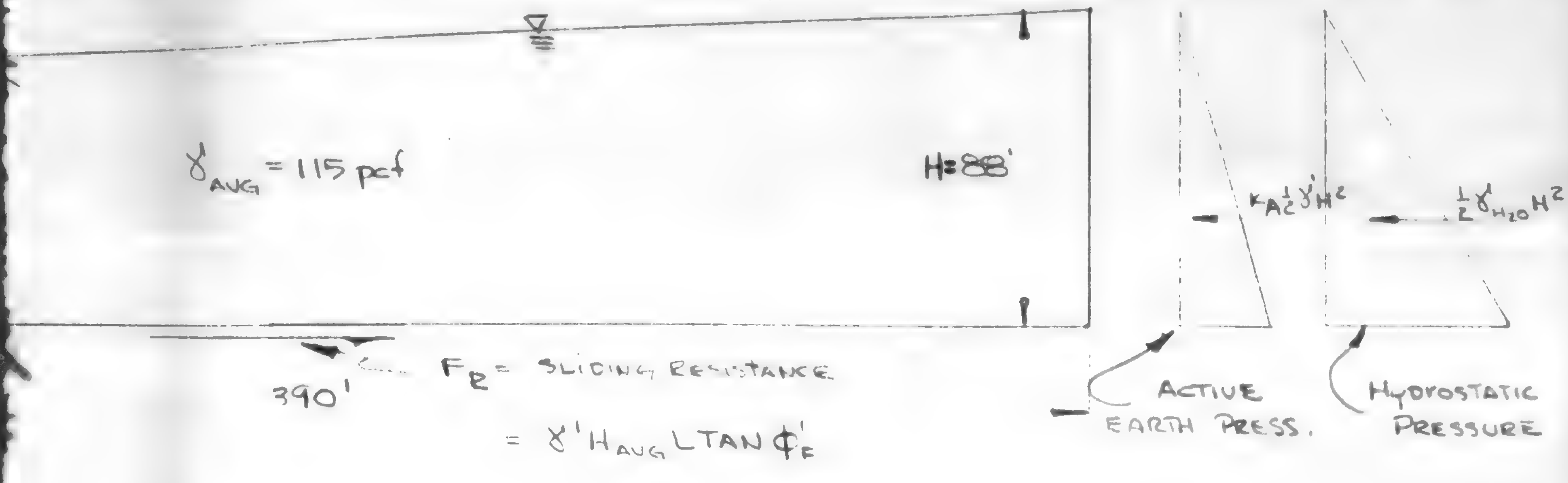
DRIVING FORCES

$$\Sigma F_D = K_A \tfrac{1}{2} \gamma' H^2 + \tfrac{1}{2} \gamma_{H_2O} H^2 \quad ; K_{A_{\phi' = 17^\circ}} = 0.55$$

$$= 0.55(0.5)\left(52.6 \frac{\#}{\text{FT}^3}\right)(88')^2 + (0.5)\left(62.4 \frac{\#}{\text{FT}^3}\right)(88')^2$$

$$= 112{,}000 \frac{\#}{\text{FT}} + 242{,}000 \frac{\#}{\text{FT}}$$

$$= 354{,}000 \frac{\#}{\text{FT}} = \underline{354\ \frac{\text{Kips}}{\text{FT}}}$$


$\gamma_{AVG} = 115$ pcf
H=88'
$K_A \frac{1}{2}\gamma' H^2$
$\frac{1}{2}\gamma_{H_2O} H^2$
390'
F_R = SLIDING RESISTANCE
$= \gamma' H_{AVG} L \tan\phi'_F$
ACTIVE EARTH PRESS.
HYDROSTATIC PRESSURE

ERALIZED SECTION

5-62.4) pcf (TAN 10°)

28 #/FT²

FT

$K_{A_{\phi'=17°}} = 0.55$

)(62.4 #/FT3)(88')²

PS

T

BUTTRESS FORCE REQ'D

$$\text{FACTOR OF SAFETY, F.S.,} = \frac{\Sigma F_R + F_{buttress}}{\Sigma F_D}$$

$$\therefore F_{buttress} = (F.S.)(\Sigma F_D) - \Sigma F_R$$

$$= (1.25)(354 \tfrac{K}{FT}) - 340 \tfrac{K}{FT}$$

$$= (442 - 340)\ K/FT$$

$$= \underline{\underline{102\ \tfrac{Kips}{FT}}} \longleftarrow$$

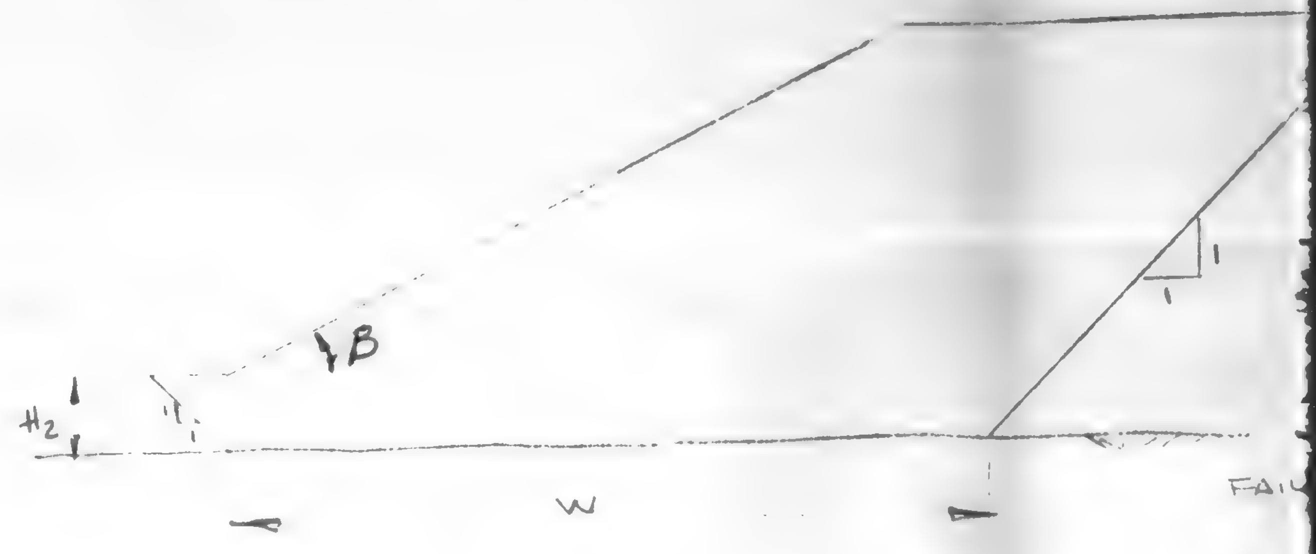
OMSI-ZOO SLIDE
PORTLAND, OREGON

DETERMINATION OF
REQUIRED BUTTRESS FORCE:
F.S. = 1.25

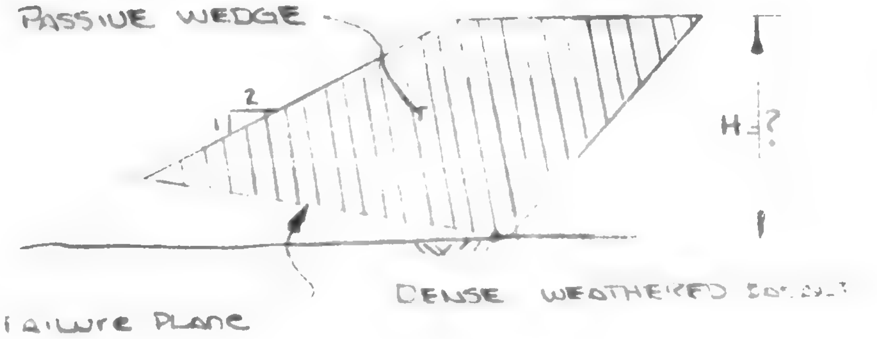
0-406 JUNE, 1969

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. B-1


γB
H2
1
1
W
FAI

BUTTRESS HEIGHT REQ'D for STABILITY


PASSIVE WEDGE
2
1
H = ?
DENSE WEATHERED [illegible]
FAILURE PLANE

AT F.S. = 1.25 the buttress force req'd, F_B, = 102^k

T' = H2
POSSIBLE PLA
BASE

$$P_p = F_B = K_p \tfrac{1}{2} \gamma H^2$$

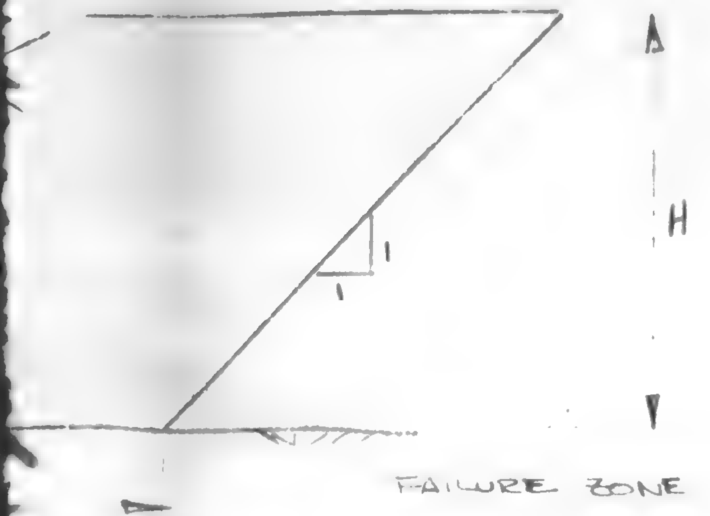
for $\phi = 40°$; $\beta = 26.5°$

$K_p = 1.71$

$$\therefore H = \left(\frac{F_B}{K_p \frac{1}{2} \gamma} \right)^{1/2}$$

$$= \left[\frac{102 \text{ KIPS/FT}}{(1.71)(0.5)(130 \text{ pcf})} \left(\frac{1000\#}{K} \right) \right]^{1/2}$$

$$= \underline{\underline{30.3'}} \longleftarrow$$



DESIGN ASSUMPTIONS:

ϕ' of buttress MAT'L = 40°

ϕ'_s (ALONG base of buttress) = 35°

β = 26.5° (2H : 1V)

γ' = 130 pcf (unit wt)

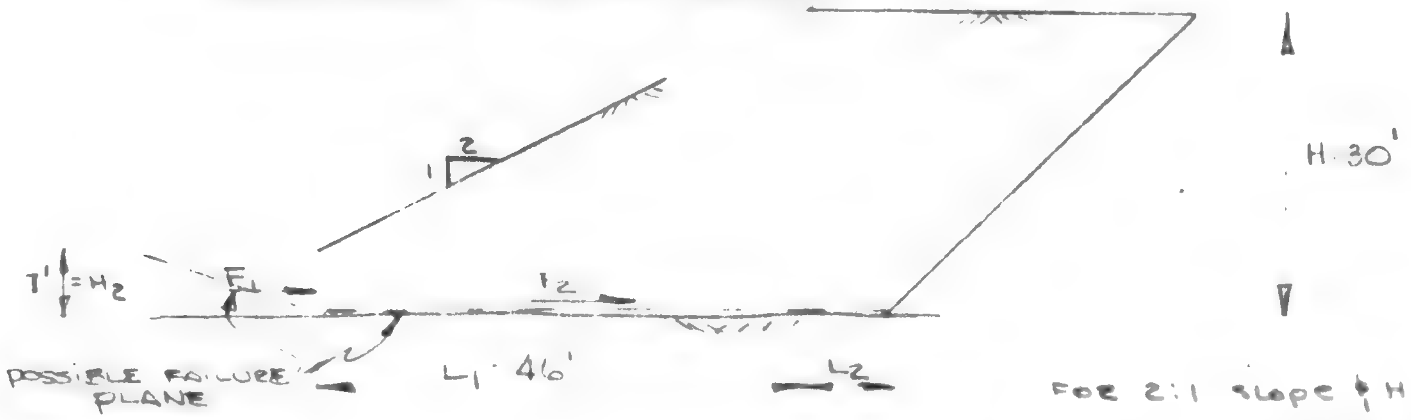
H_2 = 7'

BUTTRESS WIDTH REQ'D

the buttress

, = 102^k

.5°



For 2:1 slope & H_2 = 7', H_1 = 30'

$L_1 = (30-7)(2) = \underline{46'}$

For STABILITY $\Sigma F = F_1 + F_2 = 102$ Kips/FT

$$F_1 + F_2 = 102\frac{K}{FT} = K_P \tfrac{1}{2}\gamma' H_2^2 + \left(H_{AVG}(L_1) + H_1 L_2\right)\gamma' \tan\phi'_s$$

$$= \frac{3.5\,(115\text{pcf})(7')^2}{1000^{\#}/\text{kip}} + \left[\left(\frac{7+30}{2}\right)(46') + 30'(L_2)\right]\frac{130\text{pcf} \tan 35°}{1000^{\#}/\text{kip}}$$

$$102\frac{K}{FT} = 10\,K/FT + \left(870\,FT^2 + 30L_2\right)0.091\frac{K}{FT^3}$$

$$2.73L_2 = (102-10-80)\frac{K}{FT}$$

$$L_2 = 4.4$$

BASE WIDTH REQ'D = 46 + 4

= $\underline{50'}$ ← L REQ'D

OMSI–ZOO SLIDE
PORTLAND, OREGON

SUMMARY OF BUTTRESS
DESIGN AT STATION 103+50

O-406 JUNE, 1969

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PORTLAND, OREGON

FIG. B-2

APPENDIX C

JAMES I. MUELLER
209 Caspers Street
Edmonds, Washington
Prospect 8-6207

Licensed Professional
Ceramic Engineer

June 24, 1969

REPORT OF CLAY MINERAL ANALYSIS
SAMPLE B-6A S-3

PREPARATION AND SIZE SEPARATION

A sample of B-6A S-3 was received by messenger from Shannon & Wilson, Inc. on May 29, 1969 with the accompanying letter of transmittal.

Upon receipt, the specimen was transferred to a 5000 ml beaker and sufficient distilled water added to bring the total volume to about 2000 ml. It was then thoroughly blunged using a laboratory mixer.

The beaker was placed upon a vibration free surface and the solid-liquid-suspension permitted to settle. The application of Stokes' Law to the sedimentation of clay in water utilizes the following formula:

$$T = \frac{9h\eta}{2(\rho_1-\rho_2)gr^2}$$

where

T - time of sedimentation (seconds)
h - height of fall (cm)
η - viscosity of liquid (poise
ρ_1 - density of solid (gram/cc)
ρ_2 - density of liquid (gram/cc)
g - gravitational constant
r - equivalent spherical radius of particle

Simplifying and inserting constants, this equals

$$T = \frac{47.83\ h}{r^2}$$

Assuming that all of the clay fractions present will have a particle size less than one micron diameter, a separation was planned at that value. It was observed that, after one hour, the height of the suspension above the settled solids was 9.5 centimeters. A distance of 7 cm below the surface (h in the above formula) was chosen in order that the siphoning of the minus 1 micron suspension would not disturb the larger solids. This meant that a settling time of 22.5 hours was necessary in order to obtain the desired fraction. The sample was again blunged until all solids were in suspension and then allowed to settle on a timed basis.

After siphoning off the minus 1 micron suspension, it was placed in stainless steel drying pans and left in a drier at 95°C until all the water had evaporated. Distilled water was added to the residue and the sedimentation process repeated seven times as each subsequent run indicated considerable material finer than one micron diameter remained.

$$T = 47.83 \frac{h}{r^2}$$

T (min)
h (cm)
r (μ)

For particles 1μ diameter, $r = 0.5$

$h = 7$ cm

$$T = \frac{47.83 \times 7}{0.25} = 1340 \text{ min.} = 22.3 \text{ hours}$$

DIFFERENTIAL THERMAL ANALYSIS

A representative sample of the dried one micron material was ground and placed in a Harrop Differential Thermal Analyser. The thermogram was obtained by using a heating rate of 20°C per minute. Alpha alumina was used as a thermal reference. The thermogram showed small endotherms at 140°C and 250°C, a large endotherm at 600°C and an exotherm at 950°C. The results were compared to standards available in the literature.

X-RAY DIFFRACTION ANALYSIS

A sample of the one micron material was analyzed by x-ray diffraction. A Norelco x-ray unit using nickel-filtered copper radiation, diffractometer and electronic circuit panel was utilized. The specimen was prepared by loose packing the clay material in a standard Norelco sample holder. The resultant diffraction patterns were compared to those published in the ASTM Diffraction Index File and other publications.

RESULTS

a. Based upon the weights obtained from the seven sedimentation runs and the amount remaining in suspension on reblunging after the last run, it is estimated that 30-50 weight percent of the sample was finer than one micron in diameter.

b. Based upon differential thermal analysis and x-ray diffraction analysis, the sample contained principally Kaolinite with minor quantities of nontronite, chlorite and montmorillonite . The high iron content (evidenced by the color and x-ray fluorescent yield) masked to some degree the x-ray work and made semiquantitative determination difficult. The amount of montmorillonite present is estimated to be less than 10 weight percent.

JAMES I. MUELLER
Professional Ceramic Engineer
Washington License No. 5193

JIM:vs

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE · PORTLAND · BURLINGAME

REPORT TO
OREGON STATE HIGHWAY DEPARTMENT
SALEM, OREGON
AND
BUREAU OF PARKS
PORTLAND, OREGON

SUBSURFACE INVESTIGATION
OMSI FACILITY
PORTLAND, OREGON

APRIL 27, 1970

Shannon and Wilson, Inc.
Soil Mechanics and Foundation Engineers
1632 S. W. Morrison Street
Portland, Oregon 97205

TABLE OF CONTENTS

Page

A. INTRODUCTION 1

B. BACKGROUND INFORMATION 2

C. FIELD EXPLORATIONS 4

D. LABORATORY TESTS 6

E. REGIONAL GEOLOGY 8

F. DISCUSSION OF SUBSURFACE CONDITIONS 8

G. DISCUSSION OF RECOMMENDED REMEDIAL WORK
- General 10
- Cut Slope Downhill of OMSI 11
- Near Southeast Corner of OMSI 14
- Additional Comments 14

H. SUMMARY 14

I. LIMITATIONS 15

TABLES

TABLE I

LIST OF FIGURES

FIGURE

1. Site Plan
2. Cut and Fill Contours, Construction 1956-1960
3. Underpinning Details
4. Log of Boring B-1A
5. Log of Boring B-2A
6. Log of Boring B-3A

TABLE OF CONTENTS Continued

LIST OF FIGURES Continued

FIGURE

7. Plasticity Chart
8. Triaxial Compression Test: Sample S-6, Boring B-2A
9. Triaxial Compression Test: Sample S-12, Boring B-2A
10. Geologic Section A-A
11. Cross Sections B-B, C-C and D-D
12. Plan of Remedial Work
13. Stability Analysis (Proposed Scheme)
14. Southeast Corner of OMSI (April, 1970)

SUBSURFACE INVESTIGATION
OMSI FACILITY
PORTLAND, OREGON

A. INTRODUCTION

The OMSI* facility is located near the crest of a cut slope, which was formed by an excavation for an access road downslope in 1956. In addition, the facility is located on the fringes of a major landslide, the main scarp of which passes through the southeast corner of OMSI. Because of the foregoing and, in view of the substantial investment in the facility, it is important, in our opinion, that a critical evaluation be made of the overall stability of the ground underlying and adjacent to the facility. The purpose of this study is to present such an evaluation.

Fig. 1 presents a plan view of the OMSI facility which shows the location of the structure with respect to the major landform features described above.

The investigation described in this report was authorized by both the Oregon State Highway Department and the City of Portland in January and February, 1970. The present investigation extends the scope of an earlier study of the major OMSI-ZOO landslide presented in a report entitled "Final Report, OMSI-ZOO Landslide Investigation", dated August 4, 1969.

The investigation included a program of field explorations as well as various laboratory tests and office studies. As part of the field explorations 3 borings were drilled and 5 piezometers were installed in these borings. The purpose of the piezometers was to obtain information on groundwater levels. The laboratory tests consisted of various identification and classification tests as well as triaxial compression tests. The office studies included slope stability analyses and related engineering studies, which, in conjunction with the slope stability analyses, provided the quantitative data necessary for an evaluation of overall ground stability. This report presents a discussion of all work accomplished as part of the investigation as well as our findings, the latter in the form of design recommendations to increase the stability of the site.

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*Oregon Museum of Science and Industry

B. BACKGROUND INFORMATION

The present OMSI facility was constructed in two primary phases, the first in 1956 and the second in 1966. The more recent phase included a new wing to the museum and a planetarium. The limits of the original construction as well as the recent additions are shown in Fig. 1.

During construction in 1956, the original site topography was modified with cuts and fills. Fig. 2 shows cut (-) and fill (+) contours for the regrading work and from the figure it is evident that 5 to 10 feet of man-made fill was placed over the south portion of the OMSI facility. In general, excavations were made to the north. The magnitude of the excavations for the access road downslope is also evident from a study of the contours in Fig. 2.

The museum is essentially a reinforced-concrete structure, composed primarily of bearing walls founded on continuous spread footings. The allowable soil pressures for footing design were from 1000 to 2000 lbs. per sq. ft.; the higher pressure being used for the main building (Fig. 1). The ground floor of the museum is at about elevation 670 ft., although toward the center of the main building, the ground floor steps down to about elevation 665 ft. The ground floor slab is a slab-on-grade, about 4 in. in thickness.

Subsequent to the completion of the main building, a major landslide occurred in the hillside, involving the ground immediately downslope of OMSI. Initial movements were first detected in 1958 and by 1959, the main scarp, forming the uphill boundary of the slide, was fully visible. The main scarp extended generally in an east-west direction: near its western terminus it encountered the southeast corner of the OMSI building. The location of this main scarp in the vicinity of OMSI is shown in Fig. 1.

Measures to stabilize the landslide were adopted consisting mainly of the installation of a deep drainage curtain uphill of the landslide mass, designed to intercept groundwater percolating downslope. The location of the drainage curtain is shown in Fig. 1. The drainage curtain consists of a series of vertical shafts (dia. 30-in.) spaced on about 8 foot centers and drilled to depths in the order of 80 to 100 feet. The vertical shafts are interconnected at the bottom by a perforated metal drain. Groundwater intercepted by the curtain flows down to the metal drain and from there to two manholes, where the water is collected and then pumped into the existing sewer system. In the vicinity of OMSI the base of the drainage curtain is at elevation 597 ft.

The measures for stabilization, i.e., the drainage curtain, undoubtedly slowed the movements, but over the years and up to the present time, movements have continued. As indicated in our report entitled "Final Report, OMSI-ZOO Landslide Investigation", dated August 4, 1969, there is a pronounced increase in the rate of movement of the slide during the wet winter season. As an approximation, the additional downslope movements of the landslide mass, after the installation of the drainage curtain (1959) and up to the present time (1970), probably exceed 2 feet.

Because of the continuation of movements, support for the southeast corner of the OMSI building was removed with time, until it was obvious in 1964, that the corner would have to be underpinned. Details of the underpinning are shown in Fig. 3. Underpinning consisted of the construction of a long beam, passing underneath the southeast corner, supported at both ends by cast-in-place concrete piles (refer Fig. 3).

A recent visual examination of the OMSI facility (March 26, 1970) did not reveal any signs of major structural distress in either the exterior bearing walls or the interior ground floor slab; however, some minor cracking was observed in the exterior wall of the building near the southeast corner (refer Fig. 1). In addition, cracking of the sidewalk slab and a noticeable pulling away of the slab from the south wall of the building were observed (refer Fig. 1). A similar reconnaissance of the building was made a year ago, at which time the aforementioned minor signs of distress were not apparent or at least they were not as obvious. In general, it is our impression that conditions immediately downslope of the OMSI structure, particularly in the vicinity of boring B-2A (refer Fig. 1) and eastward have noticeably deteriorated over the past year (1969 to 1970).

C. FIELD EXPLORATIONS

In order to investigate the subsurface conditions and materials immediately adjacent to and downslope of the OMSI building, 3 borings were put down at the locations shown in Fig. 1. The borings, which were designated B-1A through B-3A, were drilled to depths of 108 feet, 90 feet and 34 feet, respectively. Borings B-1A and B-2A were positioned to straddle OMSI, and in the case of B-1A, to be just downslope of the drainage curtain, refer Fig. 1.

All the borings were made using a truck-mounted Mobile hollow-stem auger provided by Soil Sampling Service of Puyallup, Washington. A geologist, provided by our firm, located the general areas for drilling and prepared detailed boring logs of all the borings.

In the borings both disturbed and undisturbed samples were obtained during drilling. Samples were generally obtained at 2-1/2 foot intervals of depth in the upper 20 feet and at 5-foot intervals below this depth. The disturbed samples were obtained with a standard split-spoon sampler that was driven into the soil using a 140-lb. hammer dropped a height of 30-inches. The weight and height of drop of the hammer are standard and are part of the Standard Penetration Test, which consists of counting the number of blows required to drive the standard sampling spoon a distance of 1 foot into the soil. This blow count is known as the standard penetration resistance. The penetration resistance (N-value) provides a measure of the degree of compactness of granular materials, such as sands and gravels and the consistency or degree of softness of cohesive soils, such as clayey silts and clays. The samples obtained in the split-spoon sampler were classified in the field by our geologist and representative samples retained in air-tight glass jars for further check classification in our Portland laboratory. The undisturbed samples were obtained at selected intervals of depth in cohesive materials such as clays and clayey silts. These samples were obtained by pushing a 3-inch O.D. Shelby tube into the soil using the hydraulic feed on the drill rig. Since these samples are pushed and not driven, they are particularly suited for laboratory testing, such as consolidation testing and triaxial testing. After the soil in the exposed ends of the Shelby tubes was classified, the ends were sealed with wax to preserve the natural moisture content of the soil. After the completion of drilling the jar samples as well as the Shelby tube samples were returned to our Portland laboratory for check classification and testing.

Piezometers were installed in all the borings in order to observe groundwater (piezometric) levels. Each piezometer consisted of a 1/2-inch O.D. plastic pipe connected at the end to a Norton porous stone. The riser pipe with a Norton porous stone attached was lowered to a predetermined depth in the boring. The annular space between the riser pipe and the borehole was backfilled to a prescribed level with pea gravel and then a bentonite seal was placed. The remainder of the boring was backfilled with on-site material. Any water in the ground enters the plastic pipe through the Norton porous stone and rises to a static level. The depth to this level is determined by lowering a electrical probe down through the plastic pipe. Contact with the water completes an electrical circuit which is reflected at the ground surface by the lighting of a small flashlight bulb.

The logs of the borings are shown in Figs. 4 through 6. Each log presents a general description of the types of soils and/or rocks encountered. The depths, just to the right of the descriptions, indicate where the types of soils changed in composition and/or characteristics. Further to the right, the number, depth and types of samples that were obtained during the drilling operations are shown. In an adjacent column, the piezometer locations are indicated. In this column the location of the piezometer tip, the extent of the clean pea gravel backfill, and the location of the bentonite seal are indicated. Also shown in this column alongside the riser pipe is the piezometric water level for the particular piezometer. The observations were made in March, 1969. At the extreme right in the boring logs the standard penetration resistances (N-values) obtained in the taking of the split-spoon samples are plotted. Also, at the top of each boring log the elevation of the ground surface at the location of the boring is noted.

D. LABORATORY TESTS

For this investigation, the laboratory testing program consisted of a careful examination and reclassification, where necessary, of all samples and the performance of certain routine classification tests to determine some of the important index properties of the sampled soils. The classification tests consisted primarily of natural water and Atterberg limit determinations. In addition, a series of triaxial compression tests were conducted in order to obtain shear strength parameters that would assist in an overall evaluation of the shear strength characteristics of the foundation soils.

The natural water content determinations were made generally on the Portland silts and other sands and silts (decomposed basalt) disclosed in the borings. The results of the determinations are presented in a graphical manner in the boring logs, Figs. 4 through 6. The Atterberg limits were conducted on selected samples, recovered from various depths in the borings. The results of the Atterberg limit determinations are also shown on the boring logs as well as in the Plasticity Chart, Fig. 7.

The triaxial compression tests were conducted on sand and silt material (decomposed basalt) obtained in sample S-6, boring B-2A and sample S-12, boring B-2A. All the tests were drained tests, conducted after complete saturation of the test specimens was accomplished, using a suitable backpressure. Specimen height and diameter dimensions were about 6 in. and 3 in., respectively. In general, other test details followed appropriate ASTM standards. The results of the triaxial compression tests are presented in Figs. 8 and 9. Each figure shows, in the upper left hand corner, stress vs. strain and percent volume change vs. strain curves. Below these curves, Mohr's failure envelopes are drawn for effective stress conditions. A wide range of values of the angle of shearing resistance, ϕ', is revealed by the envelope construction, using the assumption that apparent cohesion, c', equals zero. In our opinion, the wide variation in the shear strength parameters is a result of the fractured nature of the decomposed basalt which results in sample non-homogeneity and preferred planes of failure. Other important details of the tests and the test specimens are tabulated to the right in each figure.

Table I, located at the end of the text, summarizes the visual classification of all samples as well as the results of the routine classification tests.

E. REGIONAL GEOLOGY

The major geologic units which underlie the OMSI facility include the following from youngest to oldest:

1. Fill - Recent.
2. Portland Hills Silt Formation - late Pleistocene Age.
3. Columbia River Basalt Formation - middle to late Miocene Age.

Man-made fill exists at the OMSI site underlain, in general, by loessial soils of the Portland Hills Silt Formation. The formation occurs regionally throughout the Tualatin Mountains above elevation 250 feet where it caps the tops of the ridges and spurs. The Portland Silts consist primarily of sandy silt, clayey silt and silty clay, ranging in thickness from 17 to 50 feet. The man-made fill consists essentially of the Portland Hills Silt material from various excavations.

Basaltic lavas of the Columbia River Basalt Formation underlie all of the previously described formations in the OMSI area and comprise most of the rock units in the Tualatin Mountains. At the OMSI facility, they consist of an upper unit of decomposed basalt that is firm to hard and has the composition of clayey silt, silty clay and sandy silt or silty very fine sand. Although highly decomposed, joint planes and the original mineral texture can be observed in much of the unit. The decomposed basalt unit is underlain throughout the OMSI area by dense weathered basalt.

F. DISCUSSION OF SUBSURFACE CONDITIONS

The soil and rock units disclosed by the field explorations consist of the following from the ground surface downward, refer to Geologic Section A-A, Fig. 10:

1. Man-made FILL: Man-made fill was disclosed in boring B-2A and possibly in boring B-1A from the ground surface down to about depth 6.5 to 10 feet, with the latter representative of the depth of fill in boring B-2A. The fill in boring B-2A consisted of mottled brown and gray clayey silt and silty clay, somewhat soft in consistency. Standard penetration resistances in the fill (boring B-2A) were in the order of 3 to 5 blows per foot.

2. Brown Silt, Clayey SILT (Portland Hills Silt Formation). The unit consists of firm brown silt to clayey silt with standard penetration resistances varying from 8 to 11 blows per foot. The unit was found only in boring B-1A.

3. Decomposed BASALT (Columbia River Basalt Formation). Underlying the man-made fill in B-2A and the Portland Hills Silt in B-1A was disclosed decomposed basalt which, because of varying degrees of decomposition, ranged from a clayey silt and silt to a clayey fine sand. The unit is multicolored, with colors ranging from dark brown to reddish-brown to gray with mineralized seams of white and black. The decomposed rock is fractured and occasionally slickensided and it contains scattered hard rock fragments. As seen from the plots of standard penetration resistances in the boring logs, the degree of compactness of the unit generally increases with depth, becoming quite hard near the bottoms of borings B-1A and B-2A.

4. Dense Weathered BASALT (Columbia River Basalt Formation). This unit consists of dense gray close-jointed BASALT. It was disclosed in one boring, boring B-1A,

at about depth 103 feet with total penetration into the unit in the order of 7.5 feet.

Of interest, in contrast to the foundation investigation for the OMSI-Zoo landslide referred to earlier, no deposits of reddish-brown to brick red clay (CH), possible Helvetia Formation, were observed in borings B-1A through B-3A. It is our present opinion that the zone of failure, i.e., failure plane, of the major OMSI-ZOO landslide is located primarily in this brick red plastic clay; hence, its absence in the borings of this investigation is encouraging.

The piezometers were observed by probing on March 19 and 26, 1970, and were found to be dry, suggesting that the drainage curtain (refer Fig. 1) is working effectively to remove groundwater in this area. In contrast, groundwater levels upslope of the drainage curtain, obtained from our earlier study, i.e., OMSI-ZOO landslide investigation (1969),were generally within 10 feet of the ground surface.

G. DISCUSSION OF RECOMMENDED REMEDIAL WORK

General. Construction of the toe buttress for the main OMSI-ZOO landslide will begin within several months (late Spring, 1970). The buttress should stabilize the OMSI-ZOO landslide, the main scarp of which, as noted earlier, passes through the southeast corner of the OMSI building (refer Fig. 1). Hence, it is anticipated that the current ground movements at the southeast corner of OMSI will markedly diminish after the installation of the buttress and, within a few years, practically cease. Hence, in our opinion, only some minor filling should be accomplished in the vicinity of the southeast corner to restore as near as practicable the original conditions of ground cover over the foundations as well as support for the floor slab and exterior footing.

On the other hand, it is our opinion that the existing cut slope downhill of OMSI has only marginal stability and, consequently, measures should be adopted to improve stability. In brief, we recommend flattening by excavation and filling the existing cut slope from its present 1.5H:1V to a more stable 2H:1V. Further background information and supporting data for the recommendations outlined above are included in the following sections.

Cut Slope Downhill of OMSI. Fig. 1 shows that over the past years slumps as well as slide scarps have etched the exposed cut slope downhill of OMSI. One small slump exists on the west, that measures in plan about 25 X 25 feet (refer Fig. 1). Of all the scarps, only that of the major OMSI-ZOO slide shows signs of pronounced recent movement. In conjunction with the slide scarps some slight bulging of the cut slope across the toe as well as in the curb line and access road pavement is clearly evident.

Fig. 11 presents three cross sections of the cut slope, designated B-B, C-C and D-D. The locations of these three sections are shown in Fig. 1. The cross sections in Fig. 11 reveal that the cut slope rises from the curb line for the access road at an average slope angle, β, of 33°-35°, or about a 1.5H:1V slope.

The cut slope is composed primarily of decomposed basalt, classified as a clayey silt with fractures, although at the head of the slide, some man-made fill exists. The effective angle of shearing resistance, ϕ', of the decomposed basalt, as obtained from laboratory testing, varies within a rather broad range from a low of 27° to as much as 47°, with a median value in the order of 37°. In general, a slope composed of dry cohesionless granular material is stable when the slope angle is flatter than the angle of shearing resistance, ϕ', of the material in the slope. Although the decomposed basalt is not strictly a cohesionless granular material, the cut slope in question is for practical purposes dry and the value of the slope angle, β, approaches the angle of shearing resistance, ϕ', of the slope material. This fact plus the existing slide scarps and the tendency for bulging at the toe of the cut slope, supports the opinion that the existing stability of the cut slope is marginal, i.e., the factor of safety approaches 1. Of course, groundwater seepage from rainfall would tend to reduce the margin of stability still further during the wet winter months.

Because of the existing marginal stability, we recommend that the degree of stability be improved by flattening the existing slope from the present 1.5H:1V to 2H:1V within the boundaries delineated in Fig. 12.

Fig. 13 shows the basic scheme proposed for the cut slope at the most critical section, Section B-B (refer Fig. 1). The main features of the scheme include 1) excavation at the head and filling at the toe of the cut slope to the required finished grade and 2) the provision of two cantilever retaining walls, one at the crest and the other at the toe of the slope.

The advantages of such construction are as follows:

1) Excavation of material near the crest of the cut slope would remove weight from the head of the major OMSI-ZOO landslide as well as from the head of other minor slides and slumps (refer Cross Sections B-B, C-C and D-D, Fig. 11).

2) The construction would redistribute more weight to the toe of the cut slope, increasing overall slope stability as well as reducing, in our opinion, the tendency for bulging of the curb line and access road pavement.

3) The retaining wall at the crest would retain the existing soft to loose fill and protect the existing driveway area at the rear of OMSI from any further

loss of ground.

Fig. 13 shows stability analyses that were conducted for the most critical section of the cut slope, Cross Section B-B, using an effective angle of shearing resistance, ϕ', of the decomposed basalt of 36°. These analyses were conducted in order to evaluate the change in stability, resulting from the proposed construction. Of paramount importance in the analyses was confirmation by calculation that the proposed excavation would not in any way increase the risk of instability and, consequently, increase the risk of damage to OMSI. Various trial stability circles were investigated and all showed that an improvement in stability would result from the proposed slope flattening. In quantitative terms, the proposed construction would improve the factor of safety of the cut slope from the existing 1.0 to 1.1 to about 1.4 to 1.5, excluding the effects of rainfall and any groundwater seepage.

The recommended retaining walls are not needed throughout the entire area to be regraded, as can be visualized from Cross Sections B-B, C-C and D-D (Fig. 11). The design would require the walls to be constructed between Cross Sections B-B and C-C, but not at D-D. Fig. 12 shows the approximate extent of the two recommended retaining walls.

At Cross Section B-B, the most critical section, the exposed height of both walls would be in the order of 5 feet. Both walls would be embedded in firm undisturbed decomposed basalt. Near the east end of the upper wall the decomposed basalt may be somewhat disturbed from slide activity, hence, to achieve suitable support, the footing level may have to be lowered or support provided through short piles. Short piles formed in augered holes, drilled, for example, using large pole or post hole augers may be a possibility. Detailed requirements for the design and construction of the walls as well as compaction of the fill could be provided if the proposed scheme is adopted and design proceeds.

Near Southeast Corner of OMSI. Fig. 14 shows the southeast corner of OMSI. The orientation of the picture and the position of the photographer are shown in Fig. 12.

Because of movements of the major OMSI-ZOO landslide, the ground has moved downward and away from the OMSI building, as shown in the photograph. Therefore, as part of the remedial work, we recommend that the ground be restored with some minor filling and regrading after completion of construction of the buttress. Fig. 12 shows the general area that requires such filling and regrading. In addition, the existing support for the ground floor slab in the southeast corner should be checked by exploratory jackhammer holes through the slab. If voids of significant size exist they should be filled by pressure grouting to restore support. In this regard, it would be best to delay any grouting until most of the ground movements have ceased as a result of the installation of the buttress.

Additional Comments. We are confident that utmost care will be exercised in the construction of the buttress at the toe of the main OMSI-ZOO landslide. However, because of the nature of the construction, some increments of ground movement must be expected in the main OMSI-ZOO slide. The magnitude as well as the rate of movement that occurs will be carefully monitored in order to control the construction limits of the buttress at any one time.

H. SUMMARY

The present study revealed that the cut slope downslope of OMSI is of marginal stability and that some remedial work should be undertaken to improve it, consisting primarily of flattening the slope from the existing 1.5H:1V to a more stable 2H:1V. The construction would require two retaining walls, one at the toe and the other at the crest of the existing slope. Elsewhere, in the vicinity of the southeast corner of

OMSI, the ground should be restored by some minor filling and some regrading after the construction of the buttress. In addition, at the time of such filling and regrading, the support of the ground floor slab should be evaluated with jackhammer exploratory holes. Any sizeable voids should be filled by pressure grouting.

The scheme of work presented in the report should increase the factor of safety in the cut slope downslope from OMSI from a marginal 1.0 to 1.1 to a more satisfactory 1.4 to 1.5. This evaluation of the new factor of safety, upon completion of the new remedial work, assumes that the present effectiveness of the drainage curtain will continue and, therefore, that the slope will remain essentially free of a groundwater regimen in the future.

Additional details of design for the remedial work in the cut slope, particularly for the two retaining walls, can be provided if the design is adopted and as design proceeds. Such details as 1) depth of embedment of the walls, 2) design earth pressures, 3) allowable footing pressures and 4) wall drainage details can be provided.

I. LIMITATIONS

The analyses, conclusions and recommendations contained in this report are based on site conditions as they presently exist and further assume that the exploratory borings are representative of the subsurface conditions throughout the site, i.e., the subsurface conditions everywhere are not significantly different from those disclosed by the investigation. If, during construction, subsurface conditions different from those encountered in the exploratory holes are observed or appear to be present beneath excavations, we should be advised at once so that we can review these conditions and reconsider our recommendations where necessary. If there is a substantial lapse of time between the submission of this report and the start of work at the site, or if conditions have changed due to natural causes or construction operations at or adjacent to the site, it is recommended that this report be reviewed to determine the applicability of the conclusions and recommendations considering the changed conditions and time lapse.

SHANNON & WILSON, INC.

by L. Radley Squier
L. RADLEY SQUIER

REGISTERED PROFESSIONAL
ENGINEER
6029
OREGON
SEPT. 8, 1967
L. RADLEY SQUIER

0-406A

TABLE I SUMMARY OF TEST DATA

Sheet 1 of 3.

Boring No.	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits			Other Tests	Sample Classification
					LL	PL	PI		
B-1A	S-1	2.5-4.0	4,6,7						Possible Fill: Brown, mottled light gray-brown clayey SILT.
	S-2	5.0-6.5	4,5,6						Possible Fill: Mottled brown and gray clayey SILT.
	S-3	7.5-9.0	3,3,5						Brown clayey SILT.
	S-4	10.0-11.5	3,4,5						Brown SILT.
	S-5	12.5-14.6	PUSH						
	S-6	14.6-16.0	3,4,7						Brown clayey SILT (wet)
	S-7	17.5-19.0	3,4,7						Brown clayey SILT with small nodules(iron or manganese shot).
	S-8	22.5-24.0	3,4,6						Brown, with mottled light gray, clayey SILT.
	S-9	27.5-29.0	3,3,5						Brown clayey SILT.
	S-10	32.5-34.0	3,4,6	28	39	23	16		Reddish-brown clayey SILT.
	S-11	37.5-39.0	6,11,12						Brown clayey SILT with numerous small 1/8 inch minus decomposed basalt nodules.
	S-12	42.5-44.0	6,12,16						Brown with white, black seams, clayey fine SAND (Decomposed BASALT).

	S-11	37.5- 39.0	6,11,12						Brown clayey **SILT** with numerous small 1/8 inch minus decomposed basalt nodules.
	S-12	42.5- 44.0	6,12,16						Brown with white, black seams, clayey fine **SAND** (Decomposed **BASALT**).
	S-13	47.5- 49.0	7, 8,9						Brown with white, black seams, clayey fine **SAND** (Decomposed **BASALT**).
	S-14	52.5- 54.0	11,14,24						Mottled brown, rust-brown, gray clayey fine **SAND** (Decomposed **BASALT**).
	S-15	57.5- 59.0	9,12,12						Mottled brown and rust brown clayey fine **SAND**. (Decomposed **Basalt**).
	S-16	62.5- 64.0	4,8,11	70	86	52	34		Dark brown to brown-gray clayey **SILT** with common brown mineraloid filling of vesicles (Decomposed Basalt).
	S-17	67.5- 69.0	10,14,17						Dark brown clayey **SILT** with occ. slicken-sided surface (Decomposed **BASALT**).
	S-18	72.5- 74.0	8,16,22						Light brown clayey **SILT** with occasional rock fragment (Decomposed **BASALT**).
	S-19	77.5- 79.0	12,20,27						Gray-brown clayey fine sandy **SILT** (Decomposed **BASALT**).
	S-20	82.5- 84.0	18,28,50						Dark brown clayey fine **SAND** (Decomposed **BASALT**).
	S-21	87.5- 88.5	[illegible]8,56						Dark brown clayey SILT (Decomposed BASALT).

TABLE I SUMMARY OF TEST DATA

0-406A

Sheet 2 of 3

Boring No.	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other Tests	Sample Classification
B-1A CONTINUED:									
	S-22	92.5-93.0	53/6"						Gray-brown clayey fine SAND (Decomposed BASALT) with angular fragments.
	S-23	97.5-97.8	50/3"						Gray-brown clayey fine SAND (Decomposed BASALT) with angular fragments.
	S-24	102.5-102.7	50/2"						Gray-brown clayey fine SAND (Decomposed BASALT) with angular fragments.
		102.7							
			Tricone						
		104.1							
			BX Core						Gray dense close-jointed BASALT.
		107.5							
B-2A	S-1	2.5-4.0	1,2,3						FILL: Mottled gray-brown clayey SILT and silty CLAY.
	S-2	5.0-6.5	1,1,2	32.5	42	23	19		(Same) with some organics.
	S-3	7.5-10.0	PUSH						Same
	S-4	10.0-11.5	4,5,6						Multi-colored brown, gray, white clayey SILT (Decomposed BASALT).
	S-5	12.5-14.0	4,6,8						Same
	S-6	15.0-17.0	PUSH	42	52	44	8	Triaxial	Brown, rust brown clayey SILT with some SAND, brittle, fractured (Decomposed BASALT).

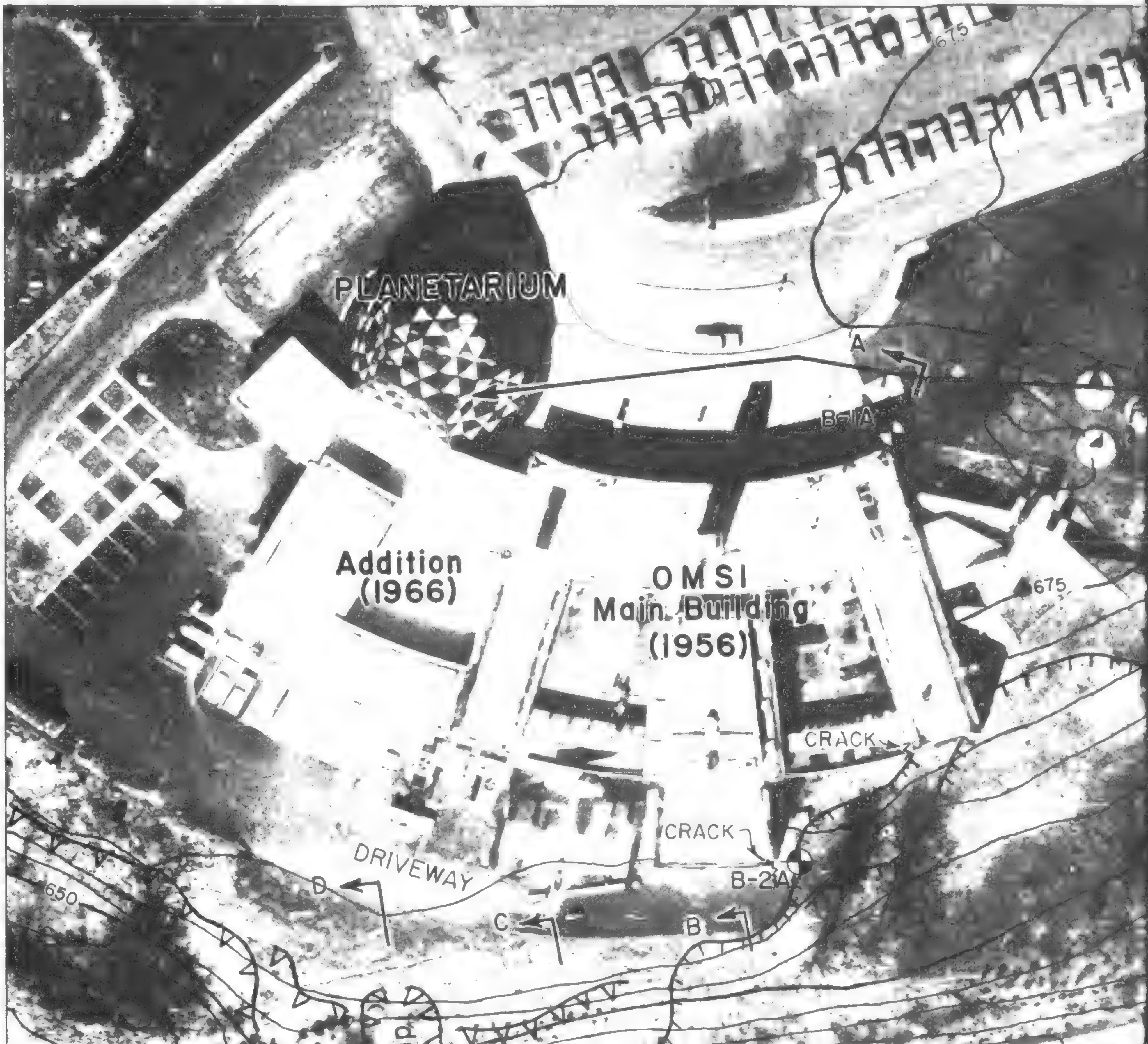
		11.5							SILT (Decomposed BASALT).
	S-5	12.5- 14.0	4,6,8						Same
	S-6	15.0- 17.0	PUSH	42	52	44	8	Triaxial	Brown, rust brown clayey SILT with some SAND, brittle, fractured (Decomposed BASALT).
	S-7	17.5- 19.0	5,6,7						Brown clayey SILT with structure (Decomposed BASALT).
	S-8	22.5- 24.0	5,6,7						Brown clayey SILT (Decomposed BASALT).
	S-9	27.5- 29.0	7,11,13						Brown clayey SILT (Decomposed BASALT).
	S-10	32.5- 34.0	10,11,12						Same: Occasional rock fragment.
	S-11	37.5- 39.0	3,6,6						Gray-brown clayey fine SAND (Decomposed BASALT).
	S-12	42.5- 43.3	PUSH	47	59	45	14	Triaxial	Mottled gray and brown silty fine SAND with seams of hard carbonaceous material (Decomposed BASALT).
	S-13	47.5- 49.0	7,14,34						Gray, mottled rust brown clayey fine SAND (Decomposed BASALT).
	S-14	52.5- 54.0	8,11,14						Brown, becoming dark gray, clayey SILT with angular basalt fragments.
	S-15	57.5- 59.0	8,14,17						Dark gray clayey SILT (Decomposed BASALT).
	S-16	62.5- 64.0	12,21,						Light gray-brown clayey fine SAND (Decomposed BASALT).

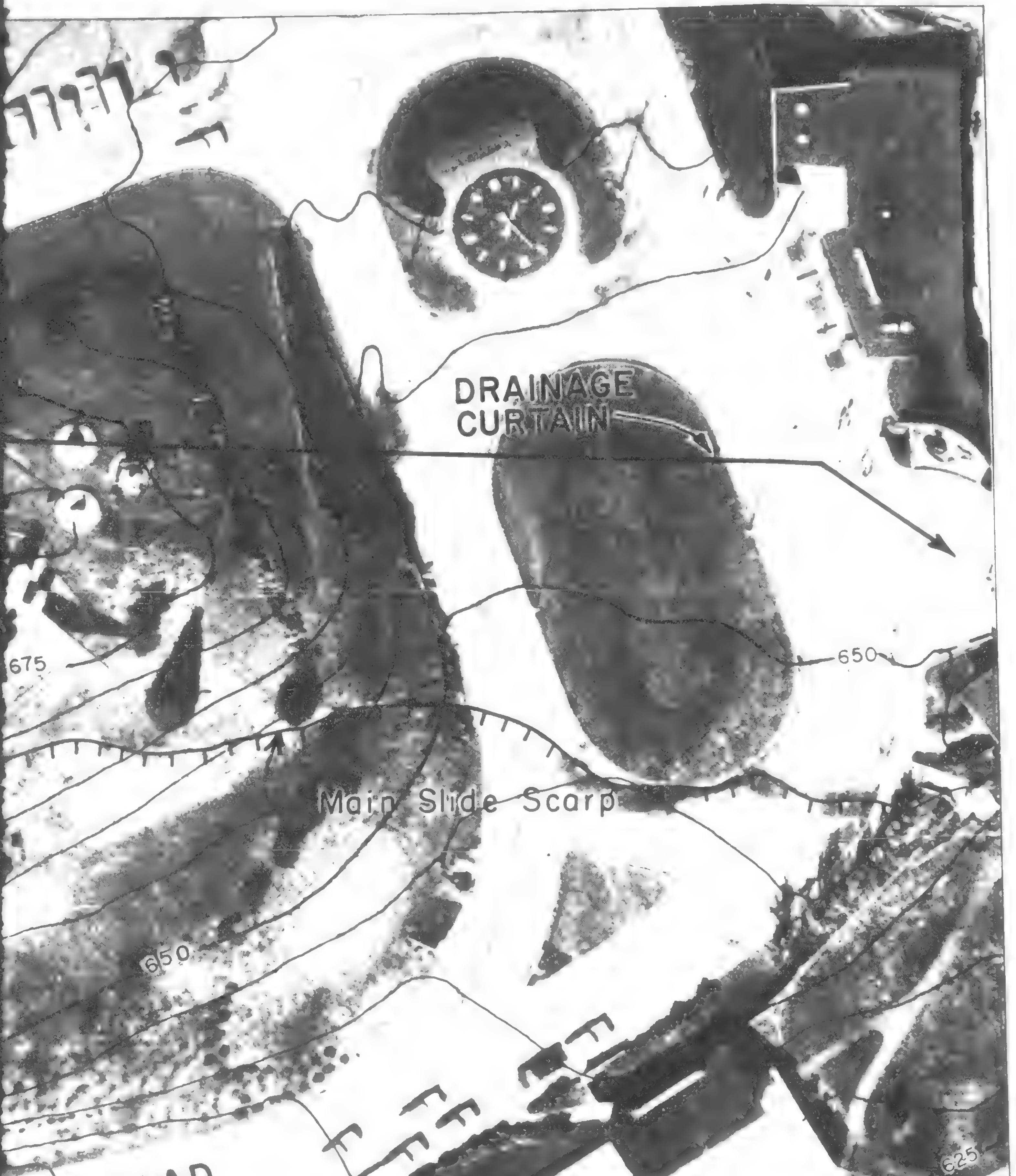
TABLE I SUMMARY OF TEST DATA

0-406A
Sheet 3 of 3.

Boring No.	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits			Other Tests	Sample Classification
					LL	PL	PI		
B-2A CONTINUED:									
	S-17	67.5-69.0	10,20,28						Brown clayey fine SAND (Decomposed BASALT).
	S-18	72.5-74.0	8,10,12						Dark brown clayey fine SAND (Decomposed BASALT).
	S-19	77.5-79.0	7,16,19						Dark brown, mottled rust brown, clayey SILT with angular basalt fragments to 1/2 in. (Decomposed BASALT).
	S-20	82.5-84.0	18,22,36						Gray-brown fine SAND (Decomposed BASALT).
	S-21	87.5-88.5	35,50						Gray-brown fine SANDSTONE (Decomposed BASALT).
B-3A	S-1	2.5-4.0	5,6,6						Brown clayey SILT (Decomposed BASALT).
	S-2	5.0-7.2	PUSH	55					Brown to gray clayey SILT with some sand (fractured) Decomposed BASALT.
	S-3	7.5-9.0	4,6,6						Brown clayey SILT with angular relatively hard decomposed basalt fragments.
	S-4	10.0-11.5	4,5,5						Gray-brown decomposed basalt fragments with clayey SILT.
	S-5	12.5-14.5	PUSH						Gray-brown clayey SILT with trace sand (fractured) Decomposed BASALT.

									hard decomposed basalt fragments.
	S-4	10.0-11.5	4,5,5						Gray-brown decomposed basalt fragments with clayey SILT.
	S-5	12.5-14.5	PUSH						Gray-brown clayey SILT with trace sand (fractured) Decomposed BASALT.
	S-6	15.0-16.5	3,6,6						Gray-brown clayey SILT with decomposed basalt fragments (free water).
	S-7	17.5-19.0	3,2,2						Gray-brown clayey SILT with decomposed basalt fragments (free water).
	S-8	19.5-22.0	PUSH						
	S-9	22.5-24.0	5,10,11						Brown-gray silty fine SAND (Friable, decomposed BASALT).
	S-10	27.5-29.0	1,3,4						Brown silty fine SAND with hard angular rock fragments (saturated).
	S-11	32.5-34.0	10,10,18						Mottled brown and gray clayey fine SAND (Decomposed BASALT) with angular rock fragments (moist).
									LEGEND Triaxial: Triaxial compression tests: Drained, with saturation by back pressure.


675
PLANETARIUM
A
B-1A
Addition (1966)
OMSI Main Building (1956)
675
CRACK
CRACK
DRIVEWAY
D
C
B
B-2A
650
Slump
ACCESS RO
B-3A
625
D
D
U
C
A
B


DRAINAGE CURTAIN
675
650
Main Slide Scarp
650
SS
ROAD
625

LEGE

Borings made
Wilson, Inc. in

Landslide s
movement

Landslide s
active move

U / D Cracks sho
movement

Scale: 1"=50

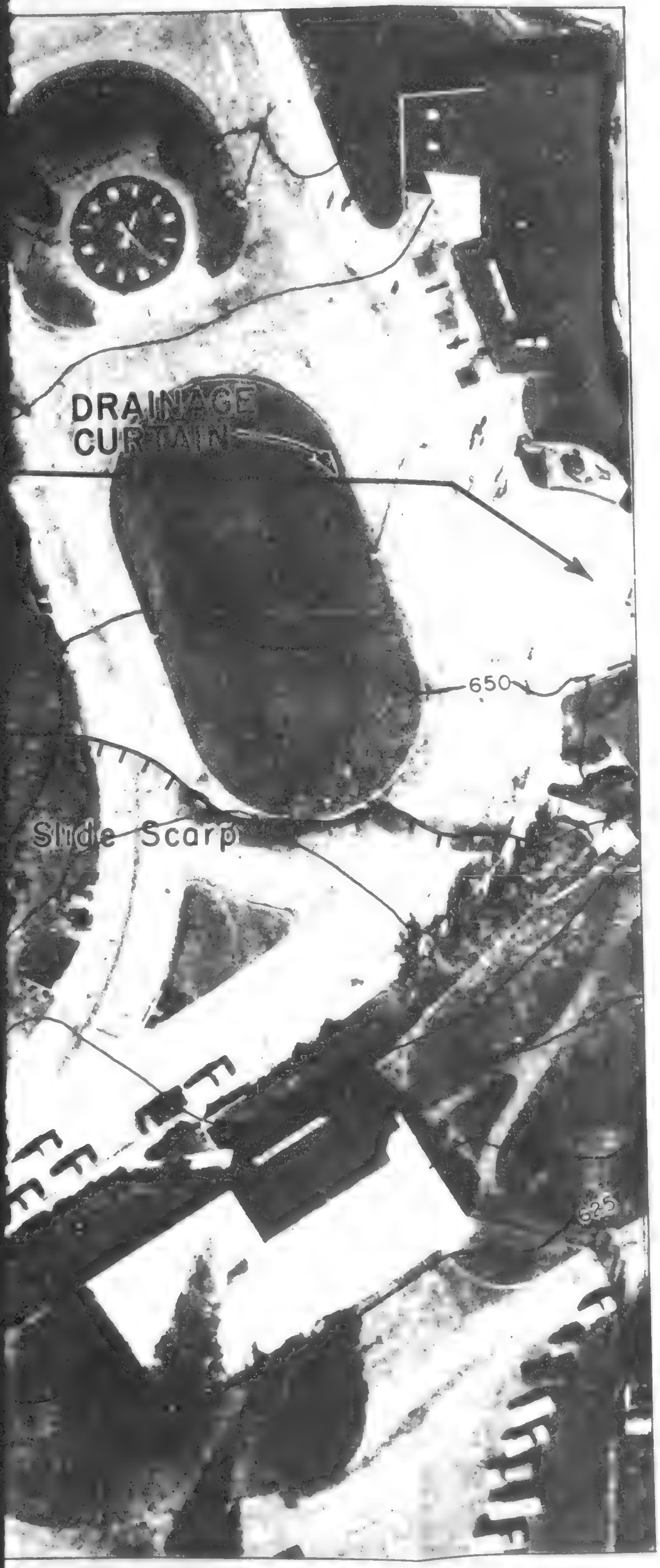
Aerial photograph
Contours are very

FOUNDAT
PORT

SI

MARCH, 1970

SHANNON
PORTLA



LEGEND

⊕ Borings made by Shannon and Wilson, Inc. in March, 1970

Landslide scarps with active movement

Landslide scarps without apparent active movement

U D Cracks showing Up and Down movement

Scale: 1" = 50' (approx.)

Aerial photography dated March 8, 1969
Contours are very approximate

N

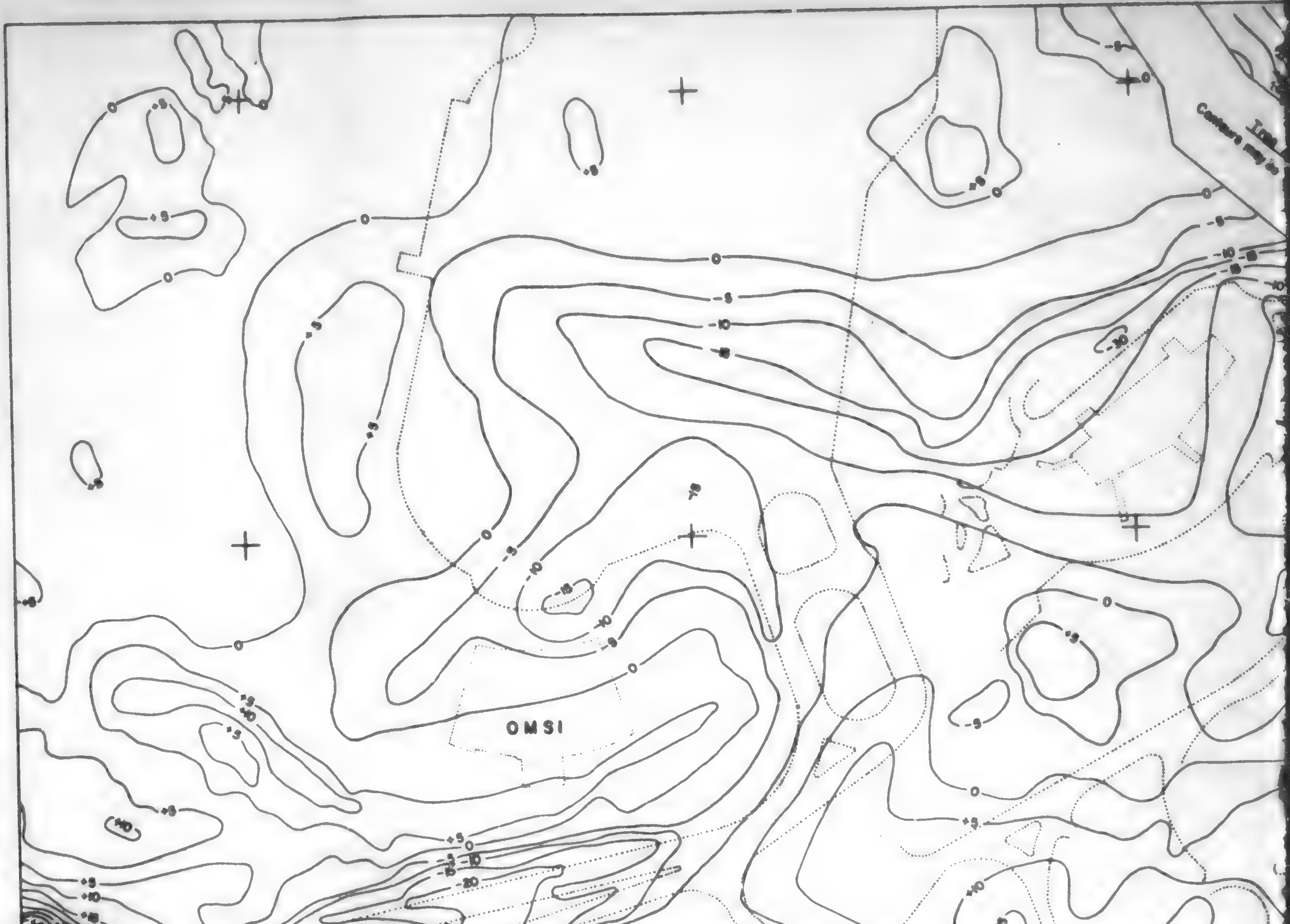
FOUNDATION INVESTIGATION
OMSI
PORTLAND, OREGON

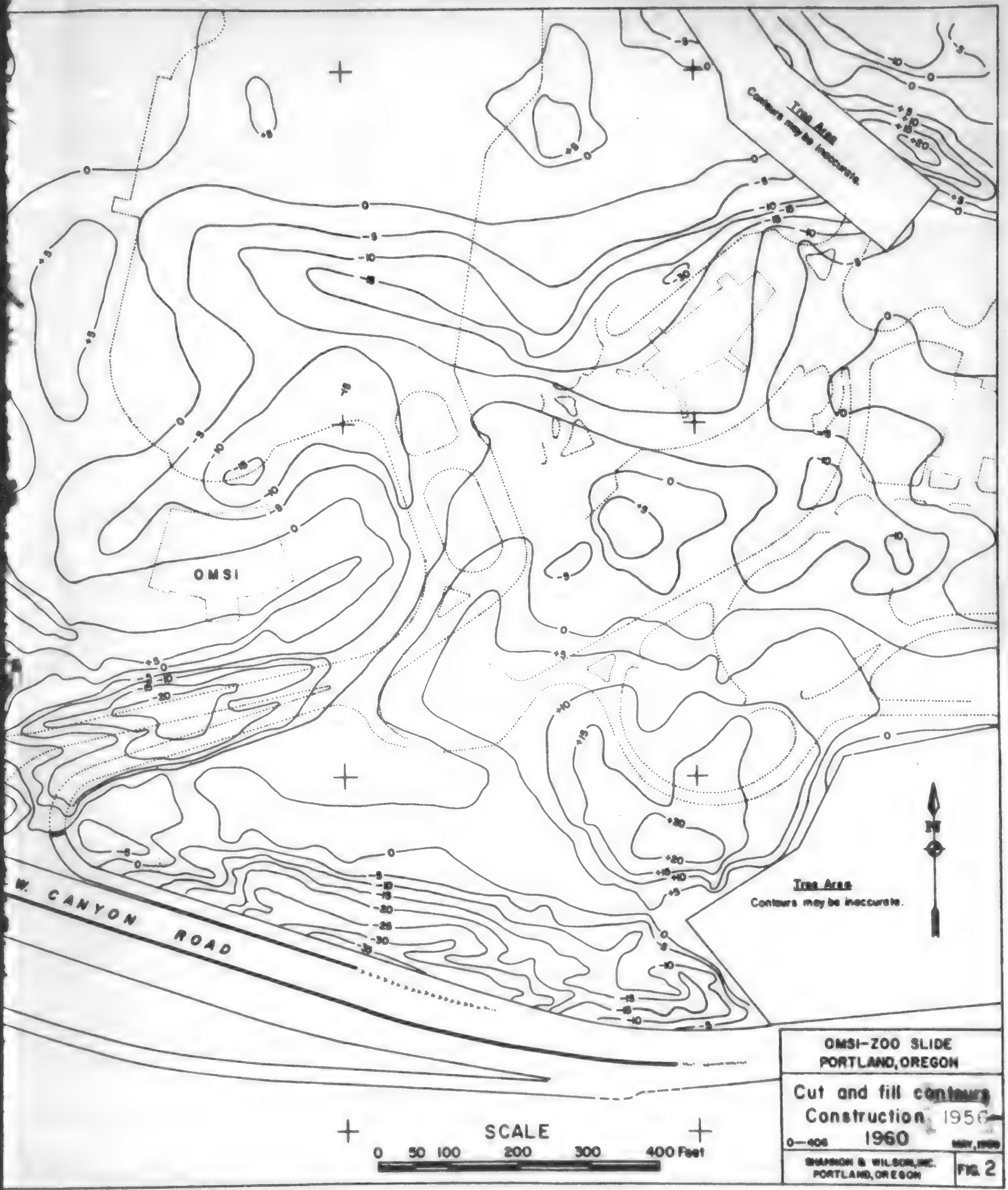
SITE PLAN

MARCH, 1970
0-406A

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 1


OMSI
S.W. CANYON ROAD
SCALE
0 50 100 200 300 400 Feet
0
+5
-5
+10
-10
-15
+15
+20
-20
-25
-30
-35


Tree Area
Contours may be inaccurate.
OMSI
W. CANYON ROAD
Tree Area
Contours may be inaccurate.
N
SCALE
0 50 100 200 300 400 Feet

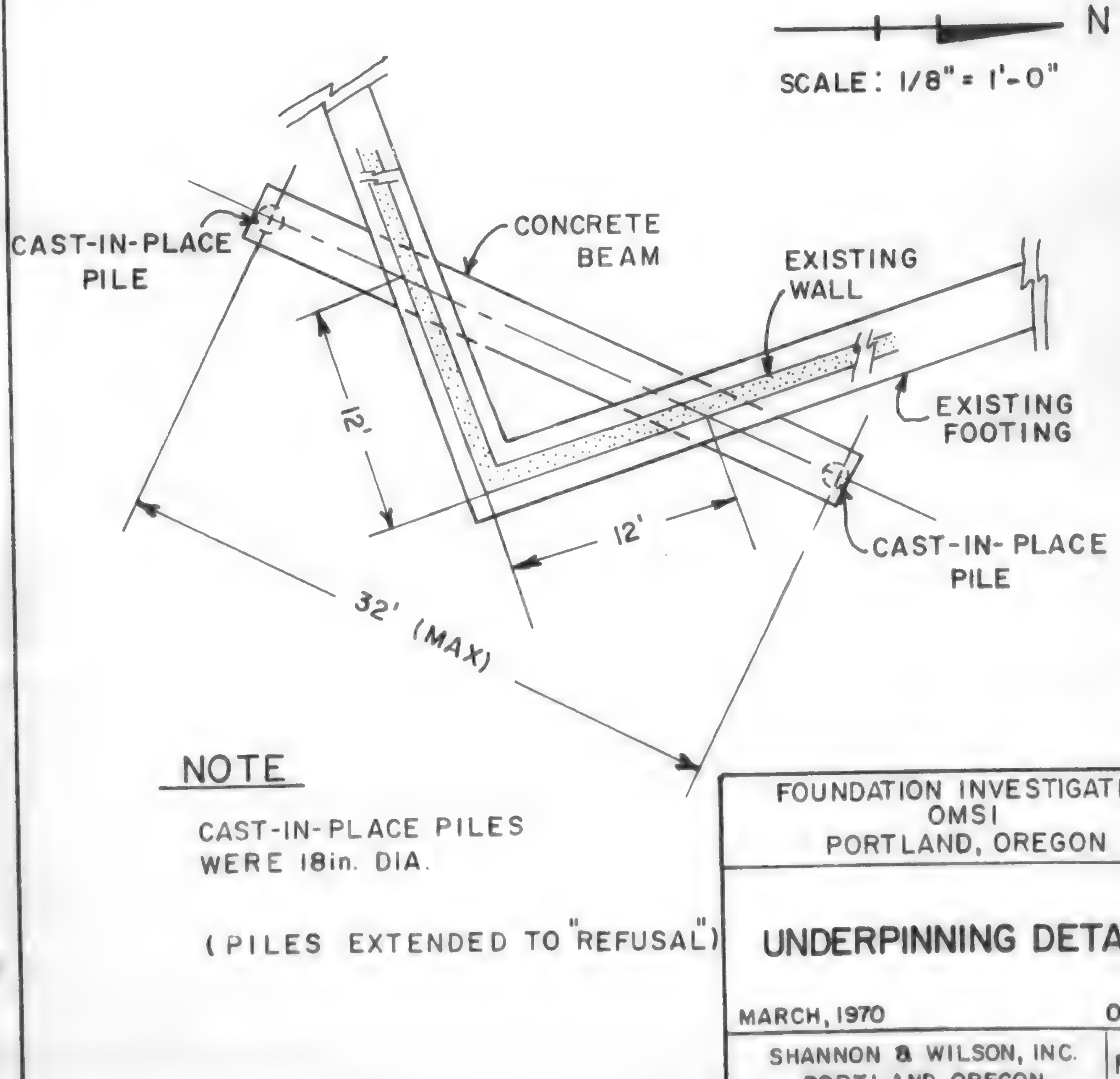
OMSI-ZOO SLIDE
PORTLAND, OREGON

Cut and fill contours
Construction 1956-1960

0—406 MAY, 1969

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 2


N
SCALE: 1/8" = 1'-0"
CONCRETE BEAM
CAST-IN-PLACE PILE
EXISTING WALL
EXISTING FOOTING
CAST-IN-PLACE PILE
12'
12'
32' (MAX)

NOTE

CAST-IN-PLACE PILES
WERE 18in. DIA.

(PILES EXTENDED TO "REFUSAL")

FOUNDATION INVESTIGATION
OMSI
PORTLAND, OREGON

UNDERPINNING DETAILS

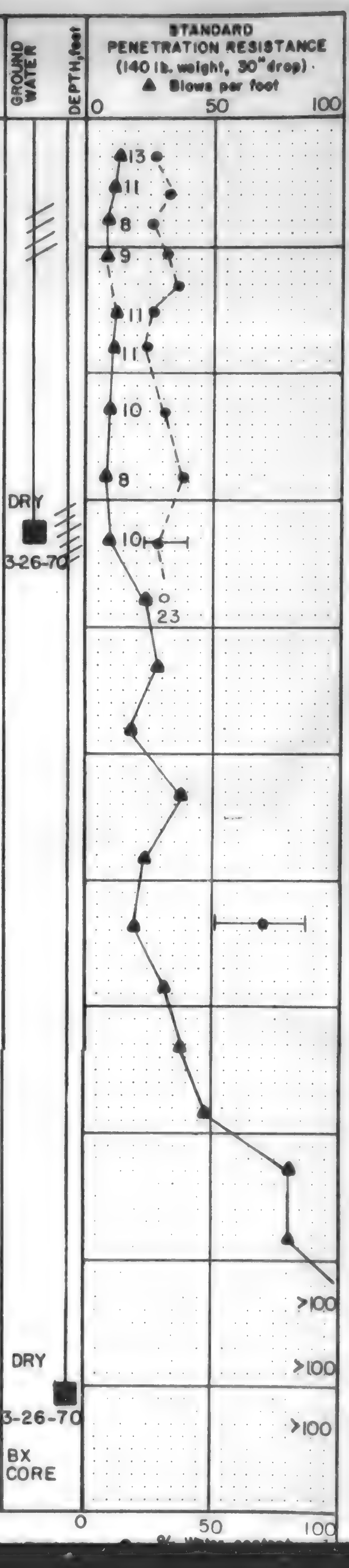
MARCH, 1970

0-406A

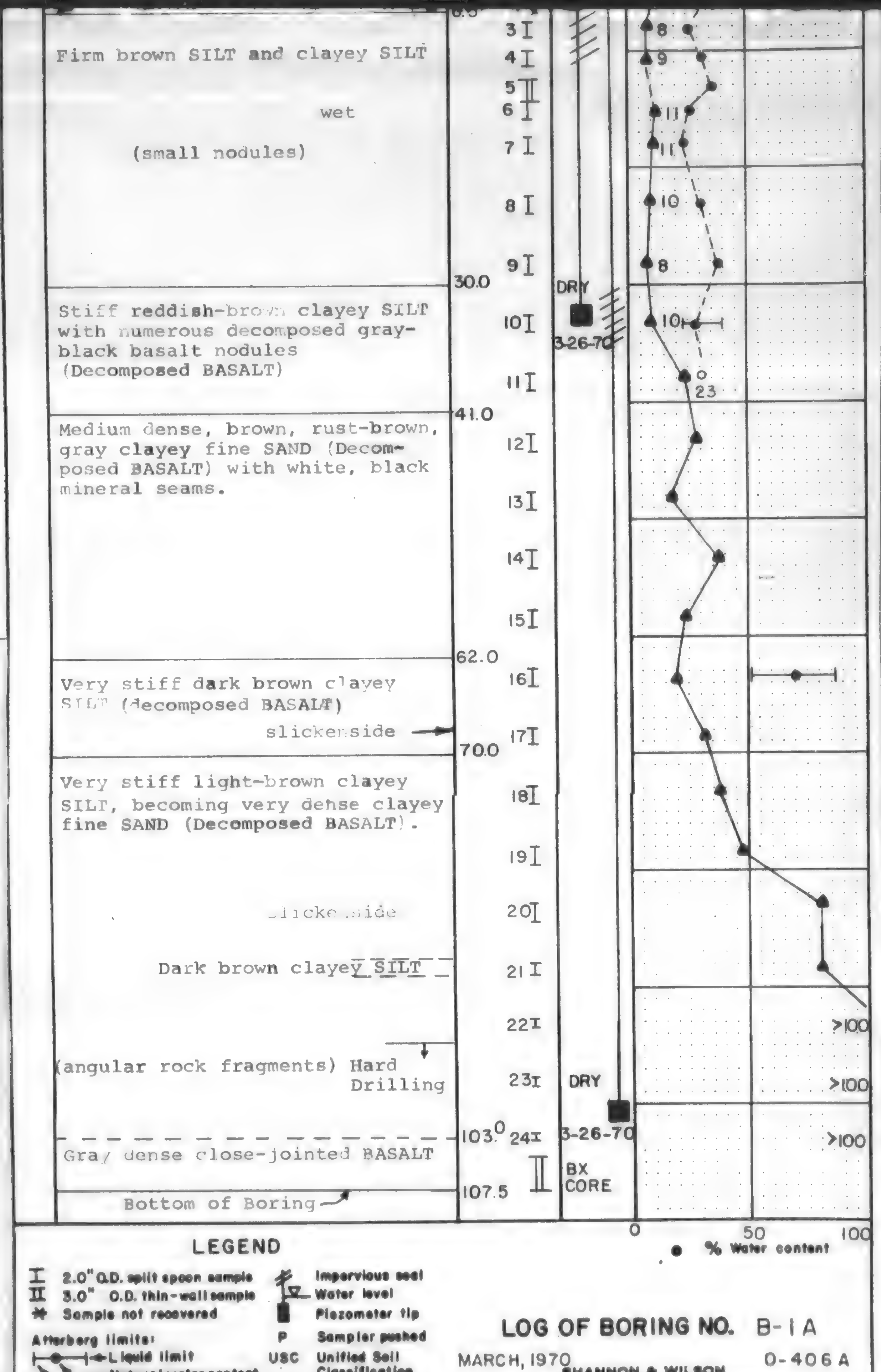
SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 3

USC	SOIL DESCRIPTION Surface Elevation: 678.3	DEPTH, feet	SAMPLES
	Possible FILL: Firm, mottled brown and gray clayey SILT.	6.5	1 2
	Firm brown SILT and clayey SILT wet (small nodules)	30.0	3 4 5 6 7 8 9
	Stiff reddish-brown clayey SILT with numerous decomposed gray-black basalt nodules (Decomposed BASALT)	41.0	10 11
	Medium dense, brown, rust-brown, gray clayey fine SAND (Decomposed BASALT) with white, black mineral seams.	62.0	12 13 14 15
	Very stiff dark brown clayey SILT (decomposed BASALT) slickenside →	70.0	16 17
	Very stiff light-brown clayey SILT, becoming very dense clayey fine SAND (Decomposed BASALT). slickenside Dark brown clayey SILT (angular rock fragments) Hard Drilling	103.0	18 19 20 21 22 23 24
	Gray dense close-jointed BASALT	107.5	BX CORE
	Bottom of Boring →		



LEGEND


Firm brown SILT and clayey SILT
wet
(small nodules)
30.0
Stiff reddish-brown clayey SILT with numerous decomposed gray-black basalt nodules (Decomposed BASALT)
41.0
Medium dense, brown, rust-brown, gray clayey fine SAND (Decomposed BASALT) with white, black mineral seams.
62.0
Very stiff dark brown clayey SILT (decomposed BASALT)
slickenside
70.0
Very stiff light-brown clayey SILT, becoming very dense clayey fine SAND (Decomposed BASALT).
slickenside
Dark brown clayey SILT
(angular rock fragments) Hard Drilling
103.0
Gray dense close-jointed BASALT
107.5
Bottom of Boring
3 I
4 I
5 II
6 I
7 I
8 I
9 I
10 I
11 I
12 I
13 I
14 I
15 I
16 I
17 I
18 I
19 I
20 I
21 I
22 I
23 I
24 I
II BX CORE
DRY
3-26-70
DRY
3-26-70
8
9
11
11
10
8
10
23
>100
>100
>100
0
50
100
% Water content
LEGEND
I 2.0" O.D. split spoon sample
II 3.0" O.D. thin-wall sample
* Sample not recovered
Atterberg limits:
Liquid limit
Natural water content
Plastic limit
Impervious seal
Water level
Piezometer tip
P Sampler pushed
USC Unified Soil Classification

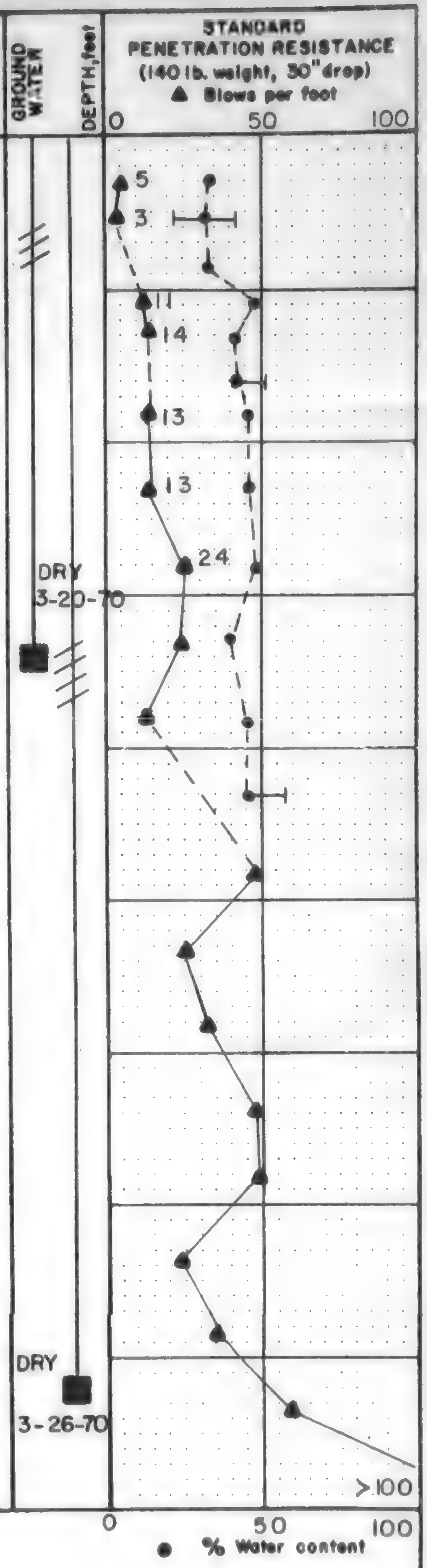
LOG OF BORING NO. B-1A

MARCH, 1970 0-406 A

SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENGINEERS

FIG. 4

USC	SOIL DESCRIPTION Surface Elevation: 664.	DEPTH, feet	SAMPLES
	FILL: Soft mottled brown and gray clayey SILT and silty CLAY (moist to wet)		1 I 2 I 3 II
	Stiff, brown clayey SILT with white, black seams (Decomposed BASALT). (occasional rock fragment)	10.0	4 I 5 I 6 II 7 I 8 I 9 I 10 I
	Medium dense, gray-brown clayey fine SAND (Decomposed BASALT)	36.0	11 I 12 II 13 I
	Very stiff, brown becoming dark gray clayey SILT with angular basalt fragments (Decomposed BASALT)	52.5	14 I 15 I
	Dense, light gray-brown clayey fine sand. Water	60.0	16 I 17 I 18 I
	Dark brown clayey SILT	76.0	
	Sandstone (Decomposed BASALT) (Refusal)	79.0	19 I 20 I 21 I
	Bottom of Boring	90	



LEGEND

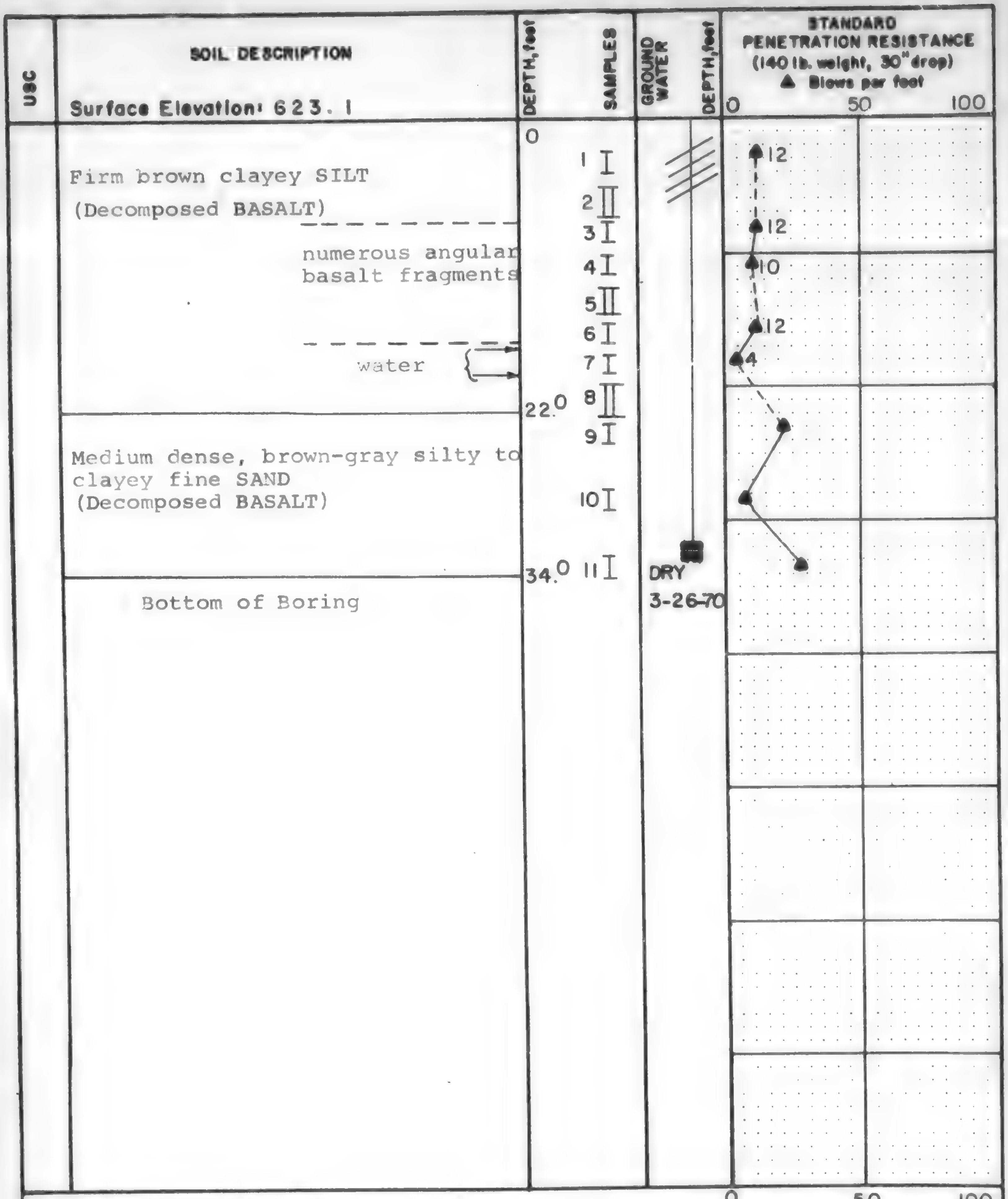
- I 2.0" O.D. split spoon sample
- II 3.0" O.D. thin-wall sample
- * Sample not recovered
- Atterberg limits: Liquid limit, Natural water content, Plastic limit
- Impervious seal
- Water level
- Piezometer tip
- P Sampler pushed
- USC Unified Soil Classification

LOG OF BORING NO. B-2A

MARCH, 1970 0-406 A

SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENGINEERS

FIG. 5



USC
SOIL DESCRIPTION
DEPTH, feet
SAMPLES
GROUND WATER
DEPTH, feet
STANDARD PENETRATION RESISTANCE (140 lb. weight, 30" drop)
▲ Blows per foot
0
50
100
0
22.0
34.0
1
2
3
4
5
6
7
8
9
10
11
12
12
10
12
4
0
50
100
● % Water content

Surface Elevation: 623.1

Firm brown clayey SILT (Decomposed BASALT)

numerous angular basalt fragments

water

Medium dense, brown-gray silty to clayey fine SAND (Decomposed BASALT)

Bottom of Boring

DRY
3-26-70

LEGEND

I	2.0" O.D. split spoon sample		Impervious seal
II	3.0" O.D. thin-wall sample	▽	Water level
*	Sample not recovered	■	Piezometer tip
		P	Sampler pushed
		USC	Unified Soil Classification

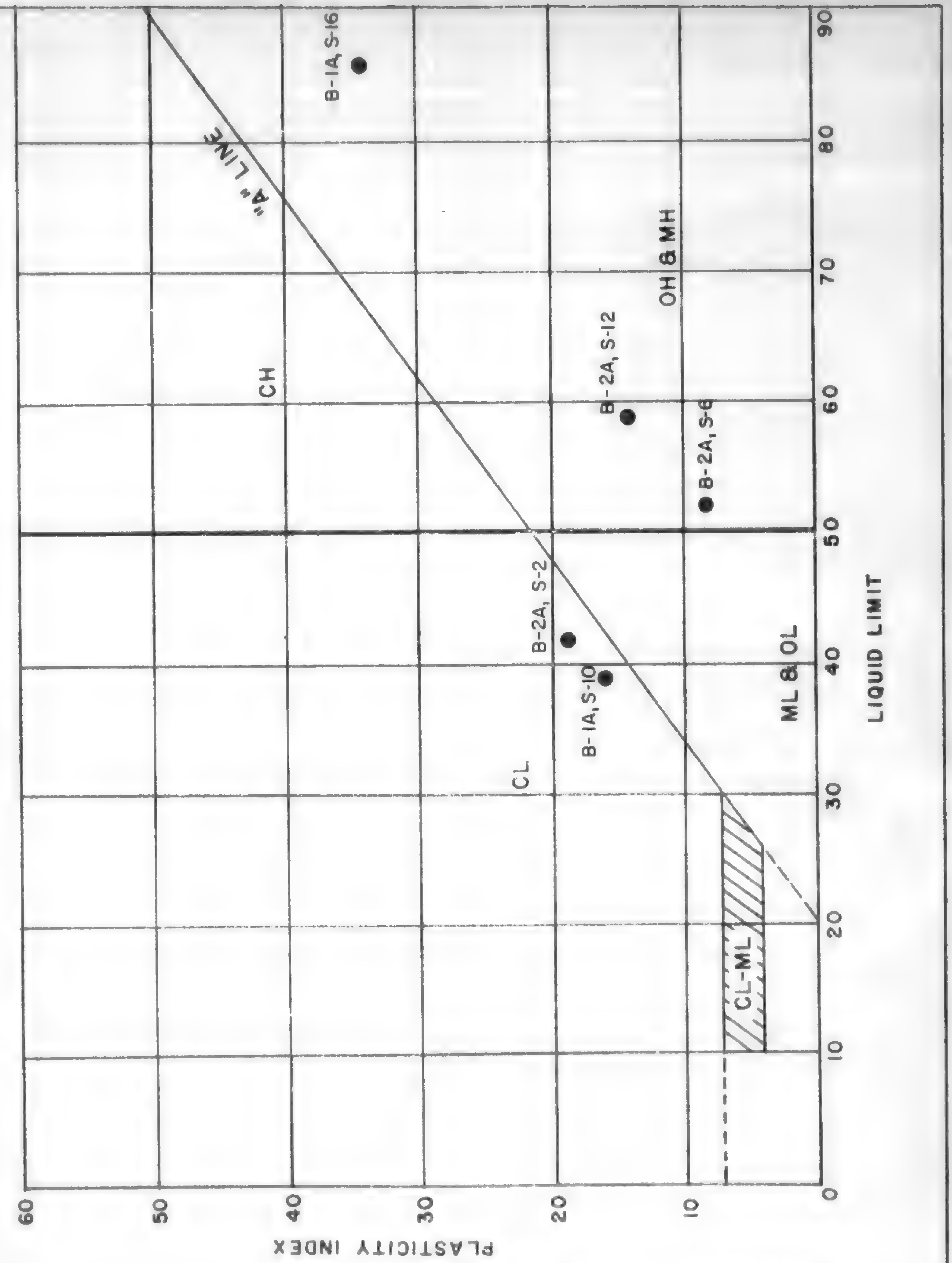
Atterberg limits:
Liquid limit
Natural water content
Plastic limit

LOG OF BORING NO. 3A

MARCH, 1970 — 0-406 A

SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENGINEERS

FIG. 6



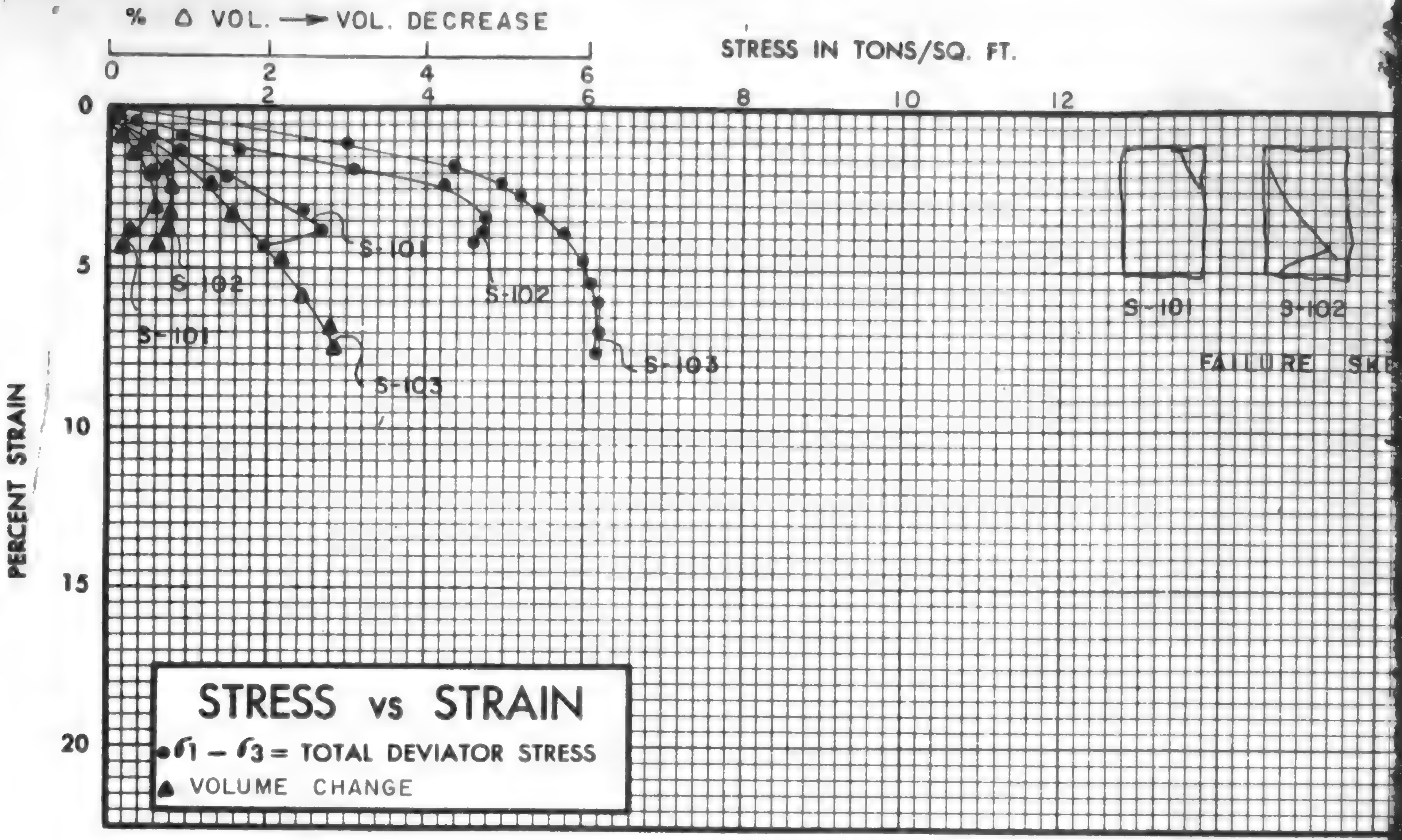
PLASTICITY CHART

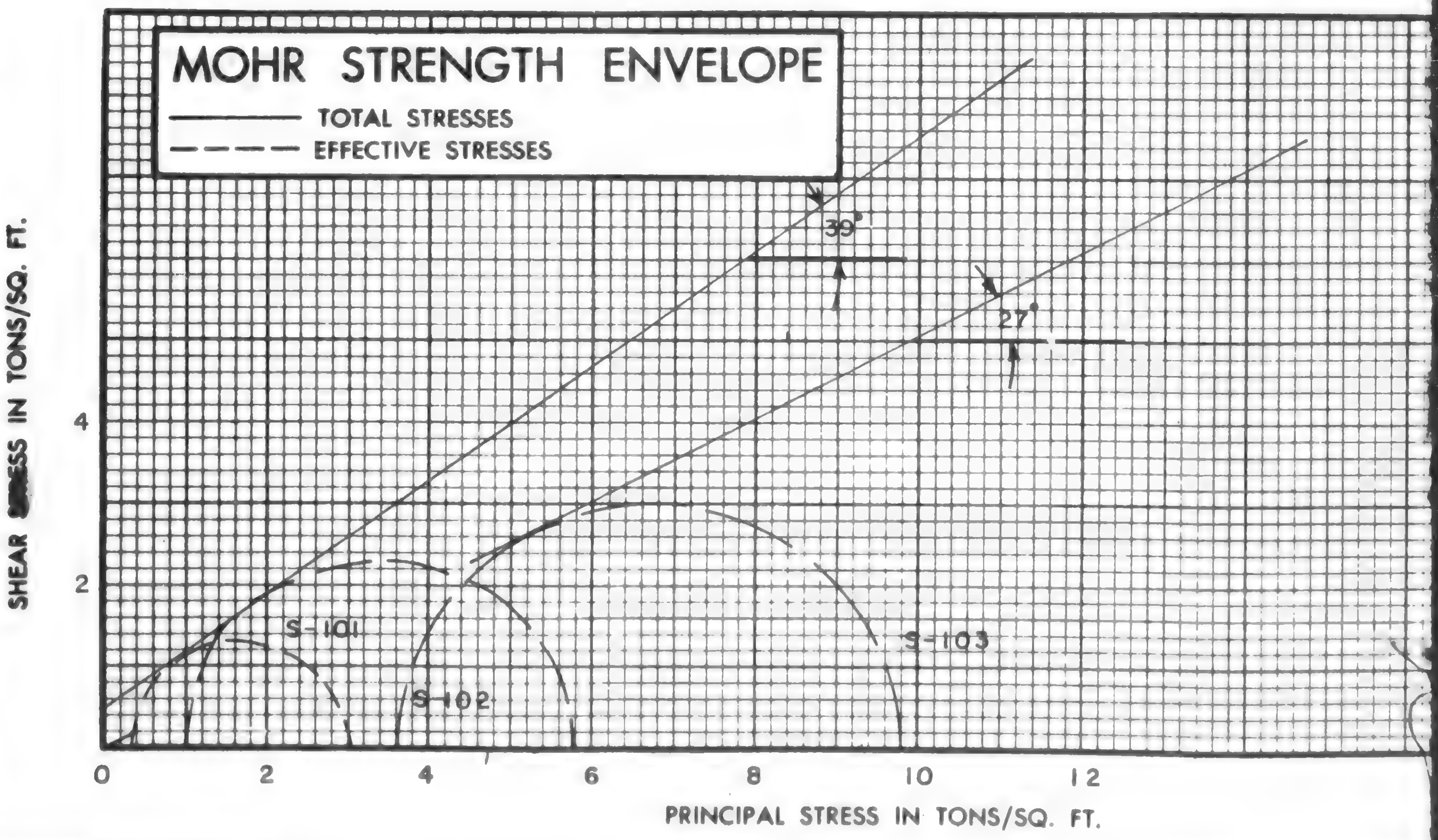
MARCH, 1970 0-406A

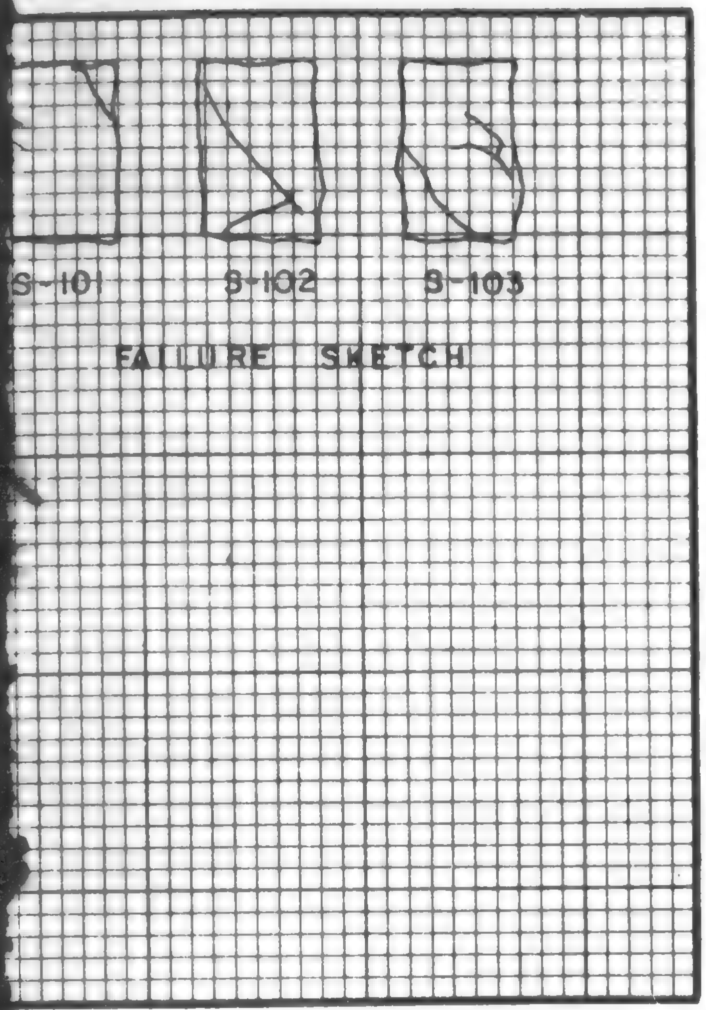
SHANNON & WILSON

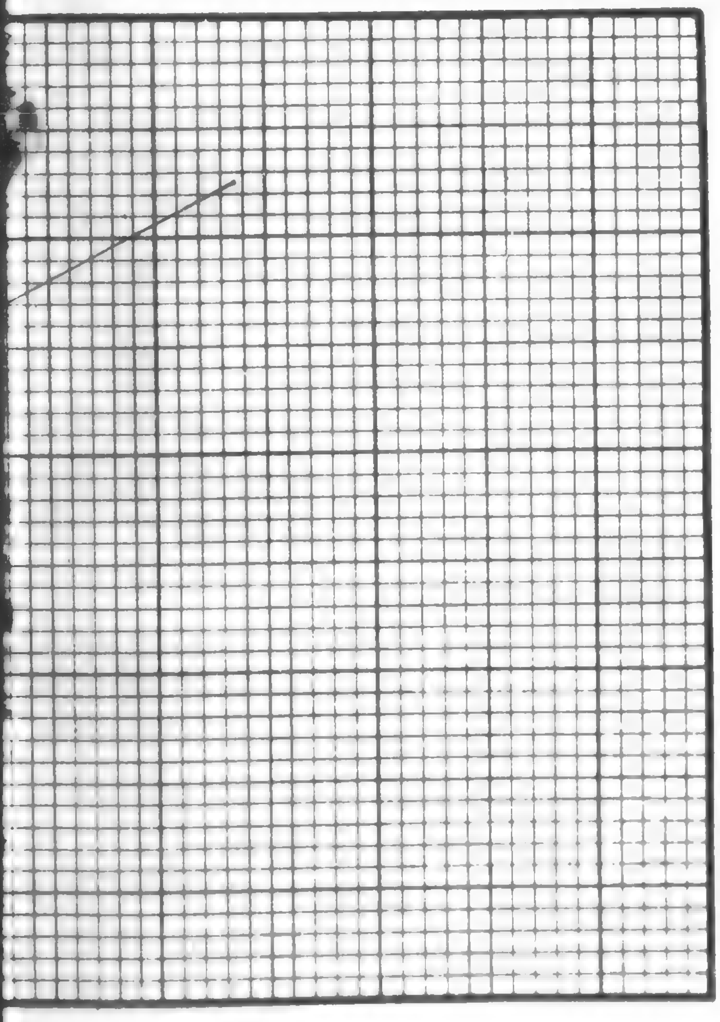
SOIL MECHANICS & FOUNDATION ENGINEERS

FIG. 7


% Δ VOL. → VOL. DECREASE
0
2
4
6
STRESS IN TONS/SQ. FT.
0
2
4
6
8
10
12
PERCENT STRAIN
0
5
10
15
20
S-101
S-102
S-101
S-102
S-103
S-103
S-101
S-102
FAILURE SKE
STRESS vs STRAIN
● σ1 – σ3 = TOTAL DEVIATOR STRESS
▲ VOLUME CHANGE


MOHR STRENGTH ENVELOPE
——— TOTAL STRESSES
– – – – EFFECTIVE STRESSES
39°
27°
SHEAR STRESS IN TONS/SQ. FT.
4
2
S-101
S-102
S-103
0
2
4
6
8
10
12
PRINCIPAL STRESS IN TONS/SQ. FT.





TYPE OF TEST ☐ Q ☐ R ☒ S

☒ PRESATURATED ☐ COMPACTED ☐ UNDISTURBED

☒ BACK PRESSURE

TEST NO.	S-101	S-102	S-103	
CLASSIFICATION:				
CHAMBER PRESSURE, tsf.	0.36	1.08	3.6	
HEIGHT, inches	6.5	6.5	6.46	
DIAMETER, inches	2.86	2.88	2.92	
WET UNIT WT., pcf.	109.2	111.0	106.4	
% WATER CONTENT BEFORE TEST	46.4	43.5	48.5	
% WATER CONTENT AFTER SATURATION				
% WATER CONTENT AFTER TEST	47.8	44.5	45.4	
BACKPRESSURE, psi	40	60	60	

COMPACTIVE EFFORT:

_______ lb. hammer _________ inch drop

_______ layers _______ blows/layer

_______ % compaction @ ____________________

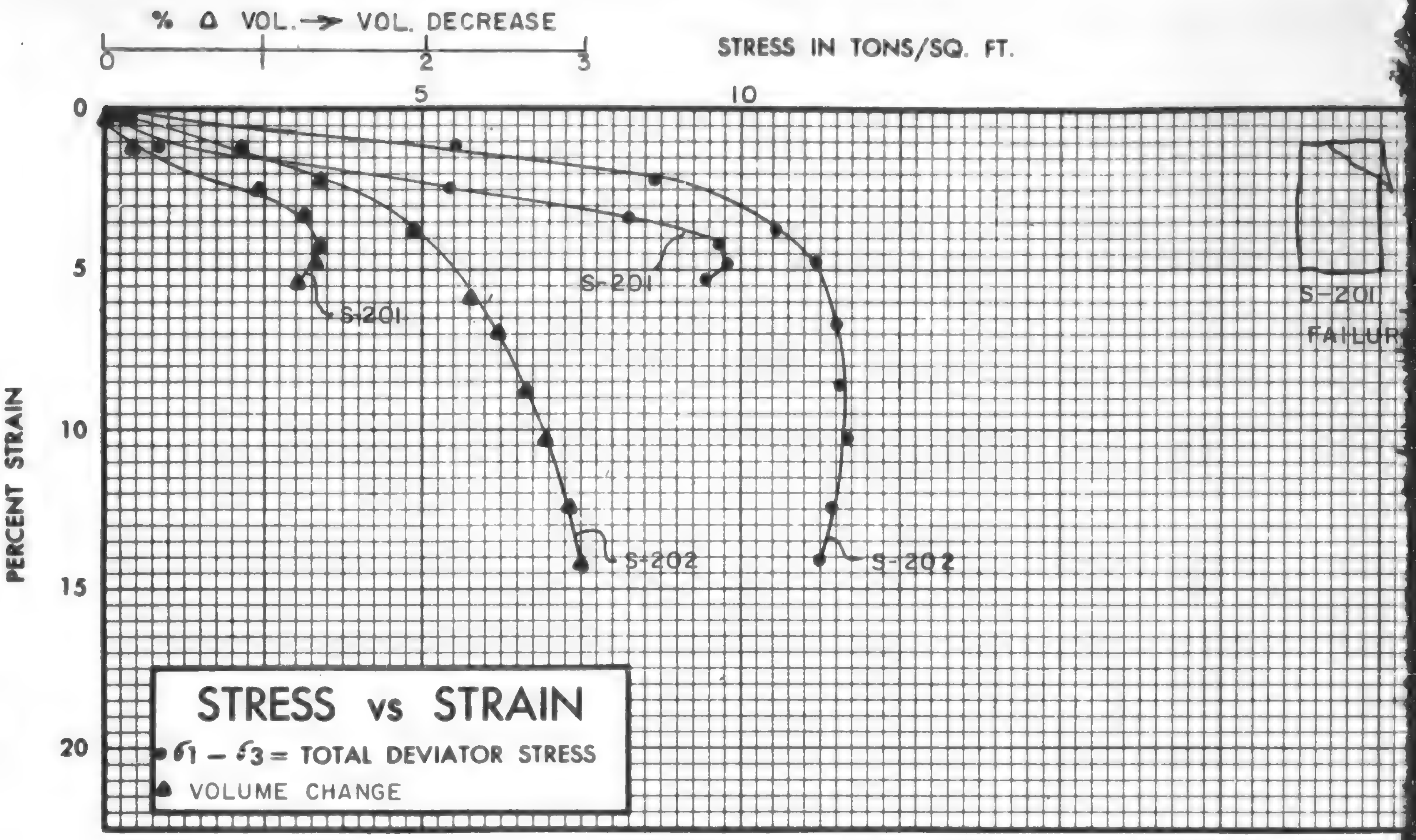
REMARKS: ALL SAMPLES WERE PATCHED ONTOP AND BOTTOM. CLASSIFICATION: RUSTY BROWN FINE SANDY SLIGHTLY CLAYEY SILT. BRITTLE & FRACTURED ORGANICS, COAL & RUST STAIN THROUGHOUT (DECOMPOSED BASALT)

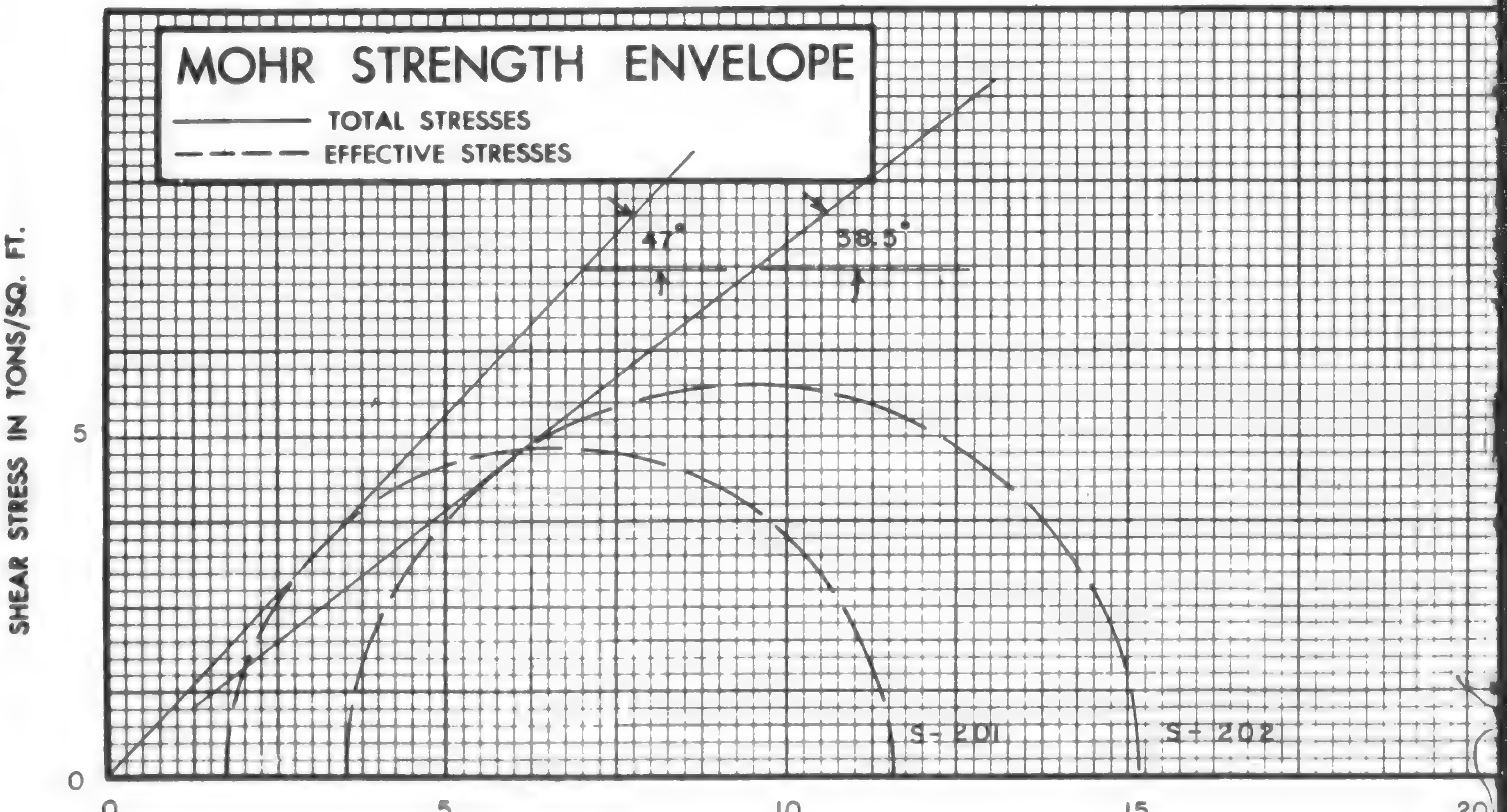
TRIAXIAL COMPRESSION TEST
BORING B-2, SAMPLE S-6
(DEPTH 15.0 – 17.0 FT.)

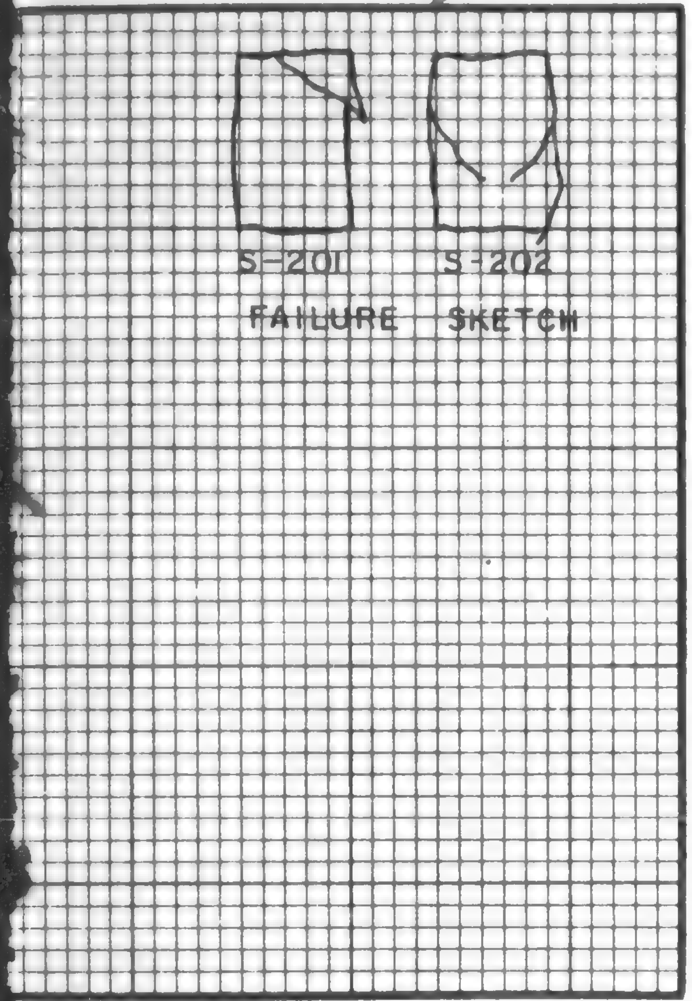
MARCH, 1970 0-406 A

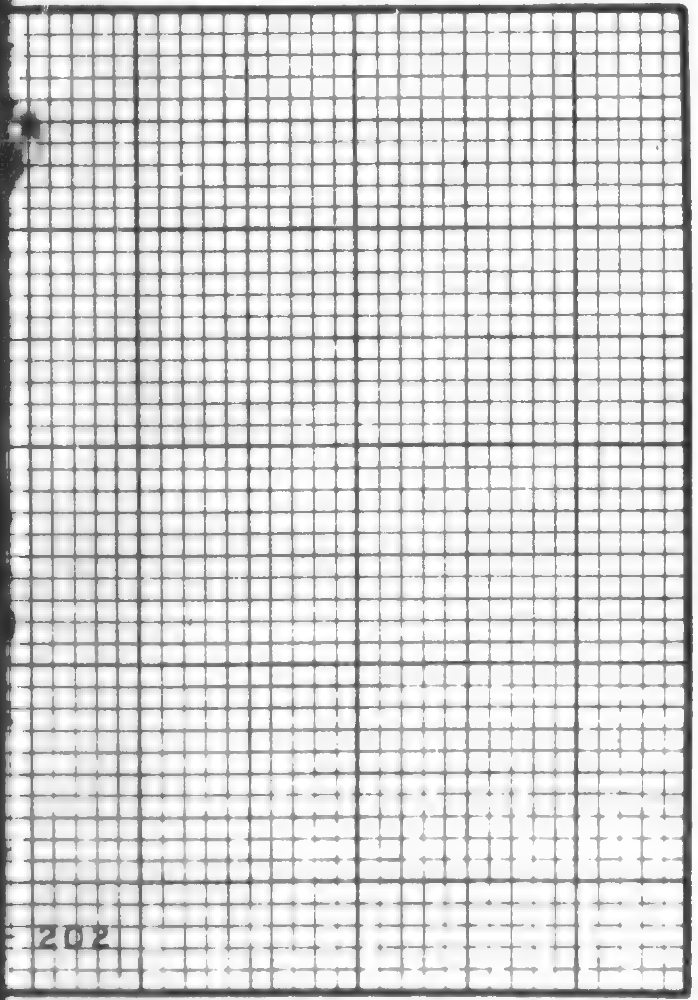
Shannon and Wilson
Soil mechanics and foundation engineers
PORTLAND

FIG. 8


% Δ VOL. → VOL. DECREASE
0
1
2
3
STRESS IN TONS/SQ. FT.
5
10
PERCENT STRAIN
0
5
10
15
20
S-201
S-201
S-202
S-202
S-201
FAILUR
STRESS vs STRAIN
● σ1 − σ3 = TOTAL DEVIATOR STRESS
▲ VOLUME CHANGE


MOHR STRENGTH ENVELOPE
TOTAL STRESSES
EFFECTIVE STRESSES
47°
38.5°
SHEAR STRESS IN TONS/SQ. FT.
0
5
S-201
S-202
0
5
10
15
20
PRINCIPAL STRESS IN TONS/SQ. FT.





TYPE OF TEST ☐ Q ☐ R ☒ S

☒ PRESATURATED ☐ COMPACTED ☒ UNDISTURBED

☒ BACK PRESSURE

TEST NO.		S-201	S-202		
CLASSIFICATION:					
CHAMBER PRESSURE, tsf.		1.8	3.6		
HEIGHT, inches		6.23	5.96		
DIAMETER, inches		2.8	2.84		
WET UNIT WT., pcf.		106	115.8		
% WATER CONTENT	BEFORE TEST	42.6	41.4		
	AFTER SATURATION				
	AFTER TEST		38.5		
BACK PRESSURE		60	60		

COMPACTIVE EFFORT:

______ lb. hammer ________ inch drop

______ layers ______ blows/layer

______ % compaction @ ____________________

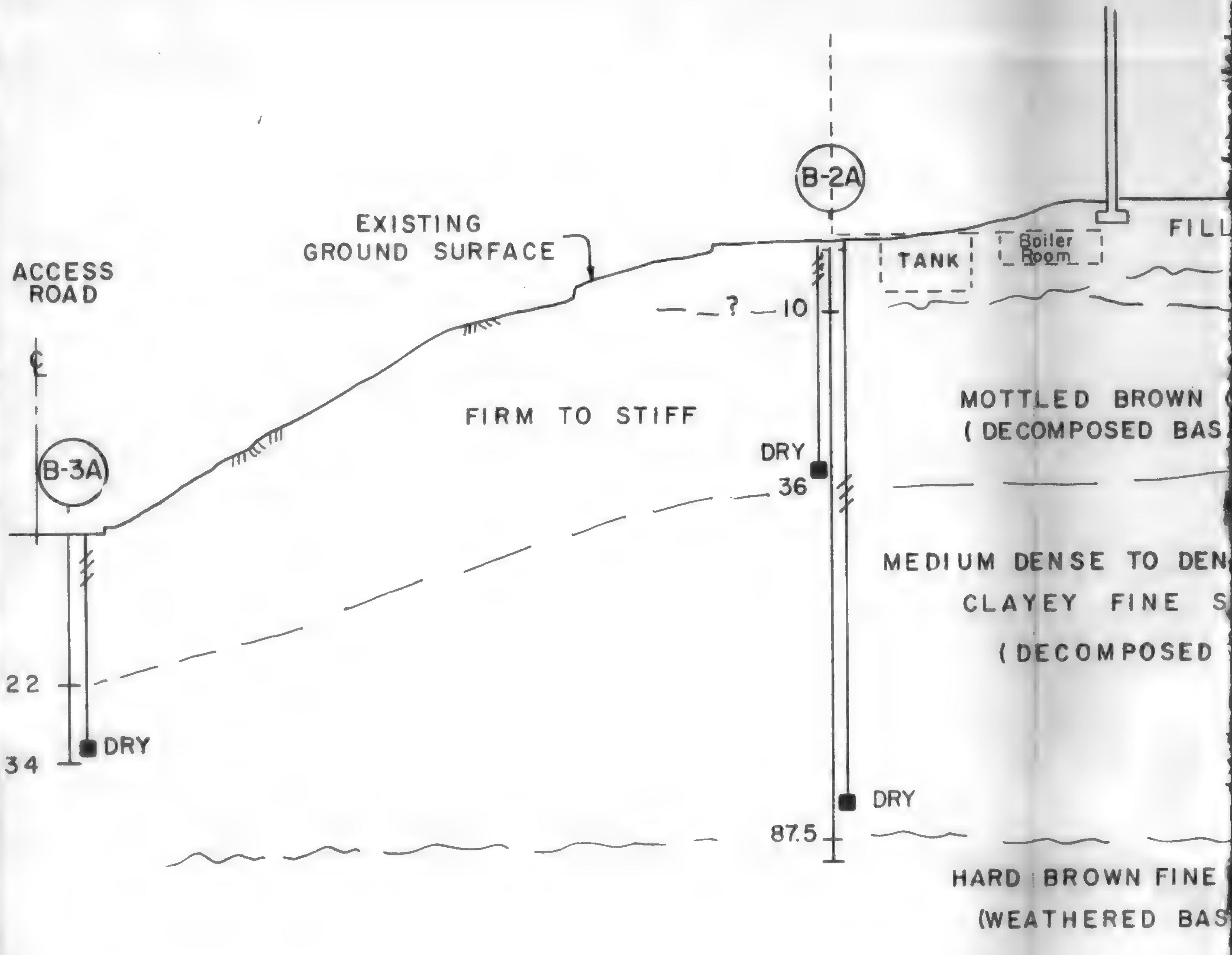
REMARKS: CLASSIFICATION: DENSE TO VERY DENSE, GRAY TO BROWN SILTY FINE SAND WITH LAYERS AND ZONES OF DARK BROWN HARD CARBONACEOUS MATERIAL THROUGHOUT (DECOMPOSED BASALT)

TRIAXIAL COMPRESSION TEST
BORING B-2, SAMPLE S-12
(DEPTH 42.5 - 43.3 FT.)

MARCH, 1970 0-406 A

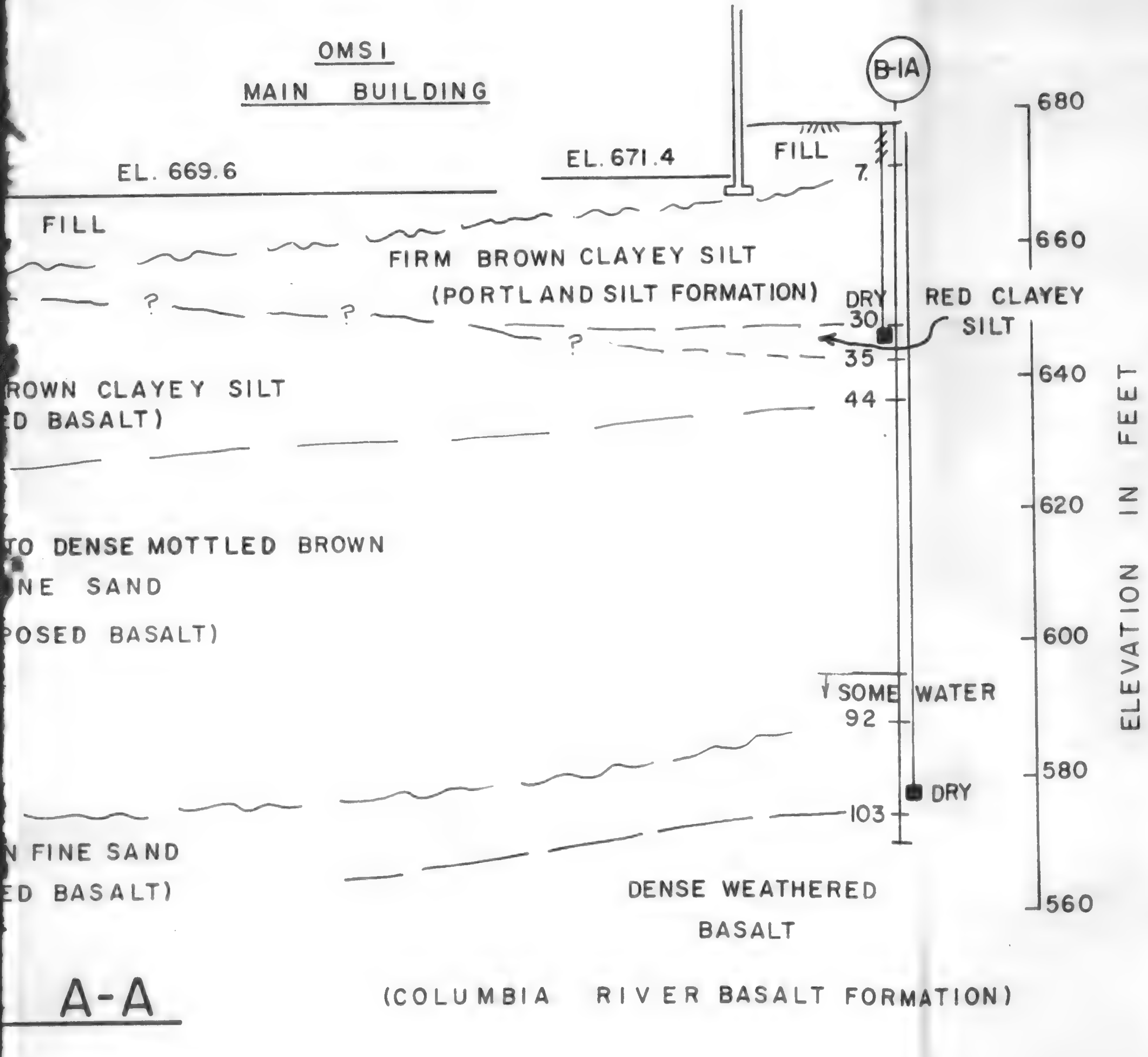
Shannon and Wilson
Soil mechanics and foundation engineers
PORTLAND

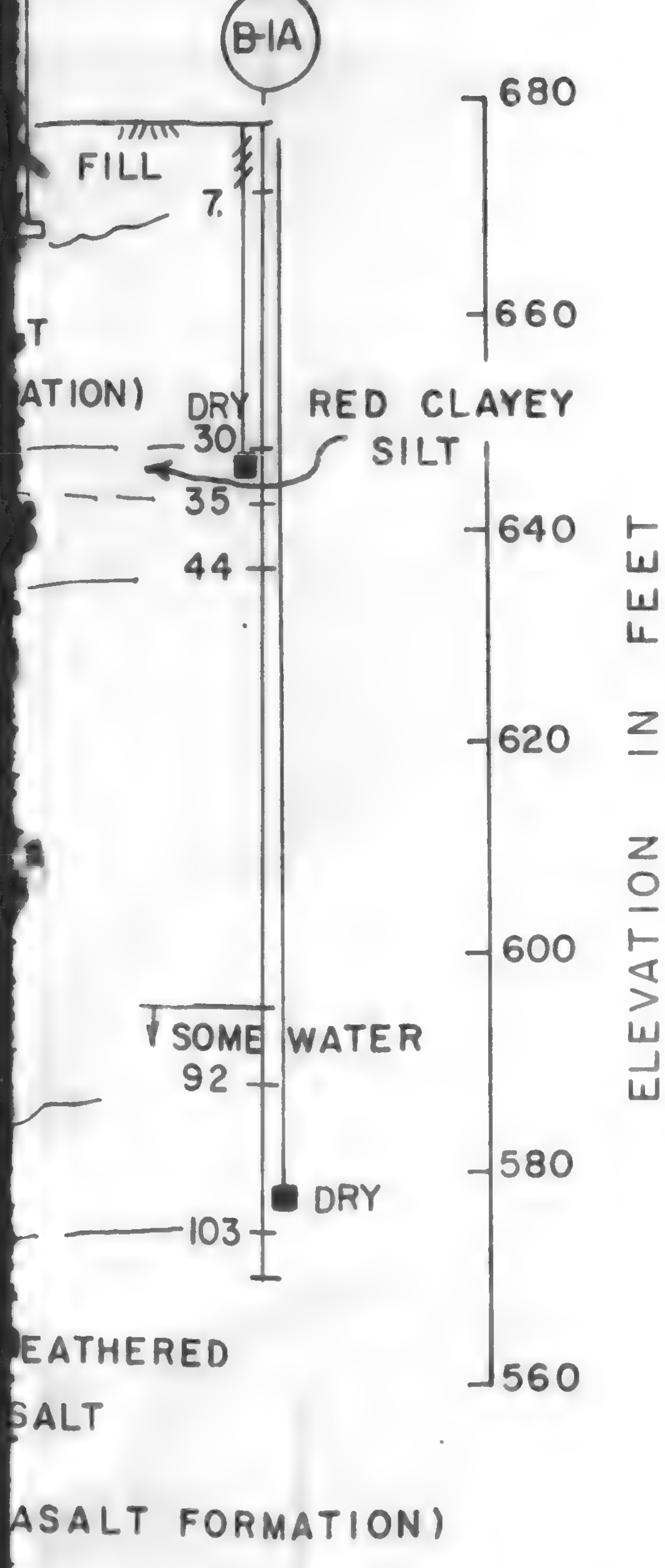
FIG. 9


ACCESS ROAD
℄
B-3A
EXISTING GROUND SURFACE
B-2A
TANK
Boiler Room
FILL
? 10
FIRM TO STIFF
MOTTLED BROWN
(DECOMPOSED BAS
DRY
36
MEDIUM DENSE TO DEN
CLAYEY FINE S
(DECOMPOSED
22
DRY
34
DRY
87.5
HARD BROWN FINE
(WEATHERED BAS

SECTION A-

SCALE 1" = 20'


OMSI
MAIN BUILDING
EL. 669.6
EL. 671.4
B-1A
FILL
FILL
7
FIRM BROWN CLAYEY SILT
(PORTLAND SILT FORMATION)
?
?
?
DRY
30
RED CLAYEY
SILT
35
ROWN CLAYEY SILT
ED BASALT)
44
TO DENSE MOTTLED BROWN
NE SAND
POSED BASALT)
SOME WATER
92
DRY
103
N FINE SAND
ED BASALT)
DENSE WEATHERED
BASALT
(COLUMBIA RIVER BASALT FORMATION)
A-A
680
660
640
620
600
580
560
ELEVATION IN FEET


B-1A
FILL
7
T
ATION)
DRY
30
RED CLAYEY SILT
35
44
SOME WATER
92
DRY
103
EATHERED
SALT
ASALT FORMATION)
680
660
640
620
600
580
560
ELEVATION IN FEET

LEGEND

B-1A BORINGS MADE BY SHANNON & WILSON, INC. IN MARCH, 1970

BENTONITE SEAL
PIEZOMETER
POROUS STONE

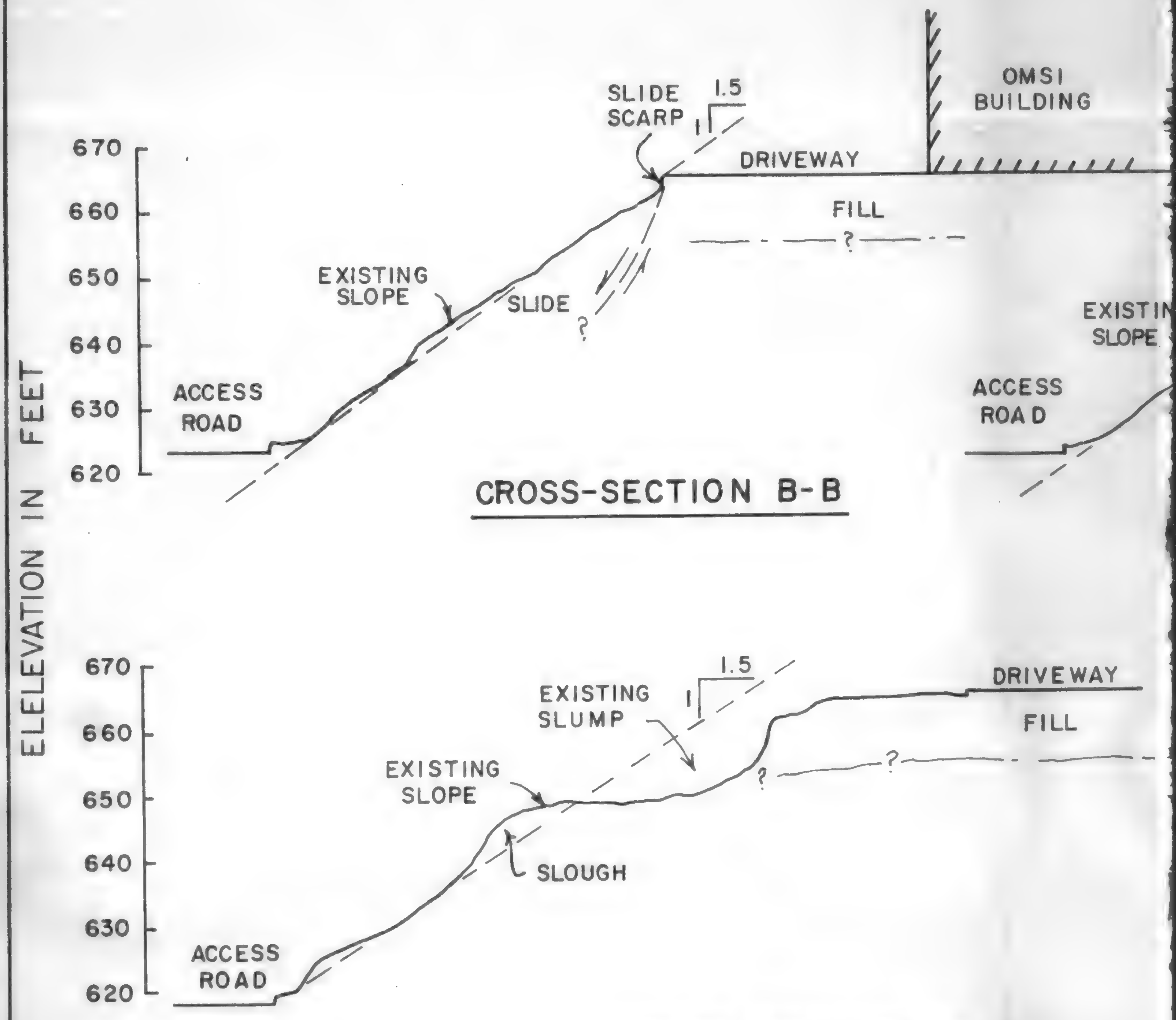
FOUNDATION INVESTIGATION
OMSI
PORTLAND, OREGON

GEOLOGIC SECTION A-A

MARCH, 1970
0-406A

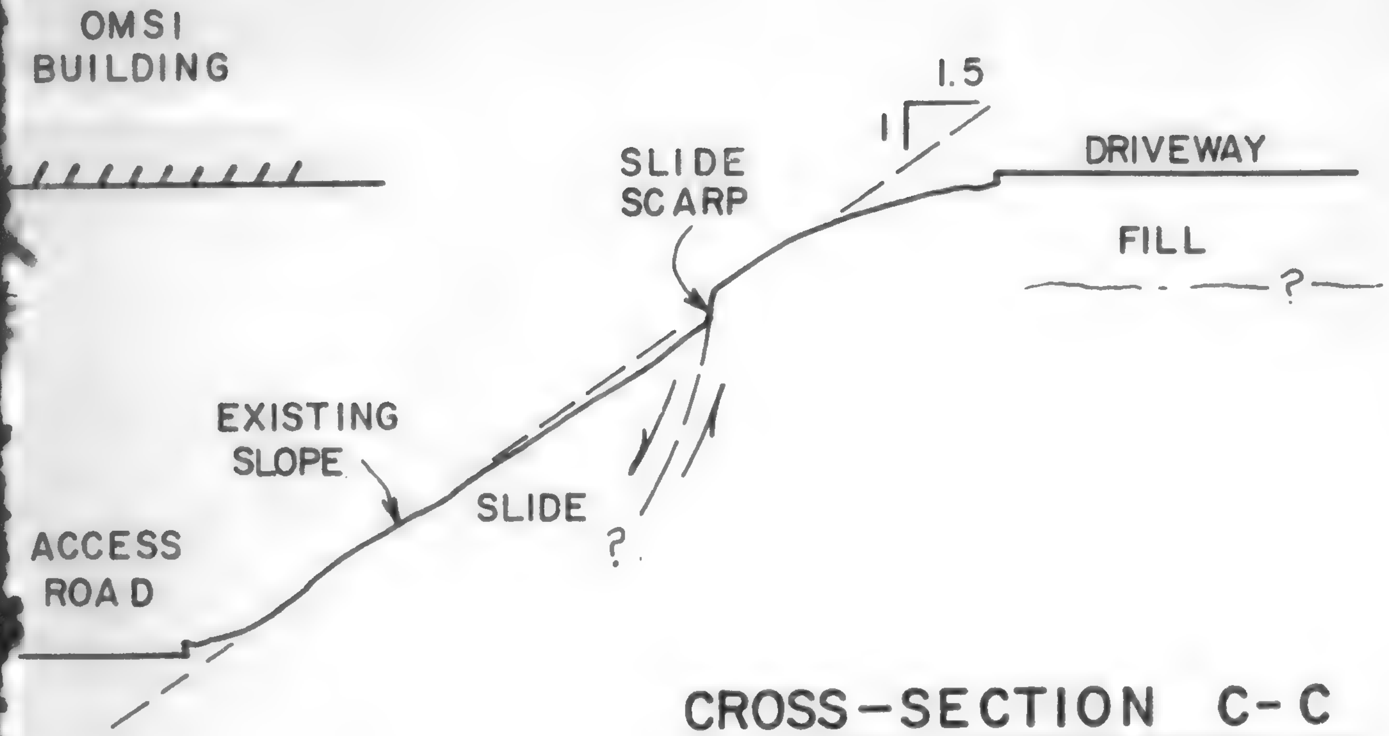
SHANNON & WILSON, INC.
Portland, Oregon

FIG. 10


ELELEVATION IN FEET
670
660
650
640
630
620
SLIDE SCARP
1.5
1
DRIVEWAY
OMSI BUILDING
FILL
?
EXISTING SLOPE
SLIDE
?
ACCESS ROAD
EXISTIN
SLOPE
ACCESS ROA D
670
660
650
640
630
620
1.5
1
EXISTING SLUMP
DRIVEWAY
FILL
?
?
EXISTING SLOPE
SLOUGH
ACCESS ROAD

CROSS-SECTION B-B

CROSS SECTION D-D


OMSI
BUILDING
1.5
1
SLIDE
SCARP
DRIVEWAY
FILL
?
EXISTING
SLOPE
SLIDE
?
ACCESS
ROAD

CROSS-SECTION C-C

DRIVEWAY
FILL
?

SCALE: 1" = 20'

D-D

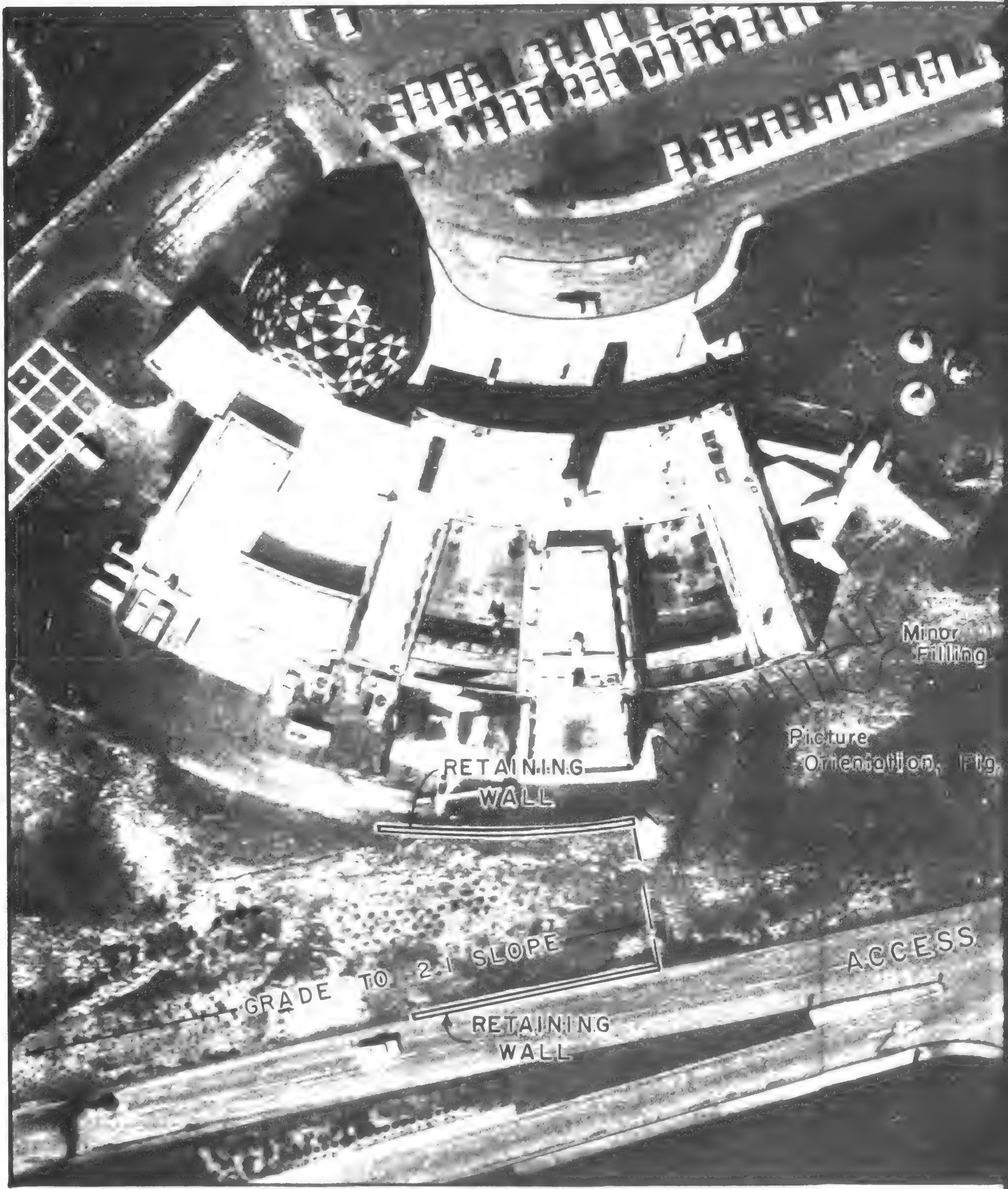
FOUNDATION INVESTIGATION
OMSI
PORTLAND, OREGON

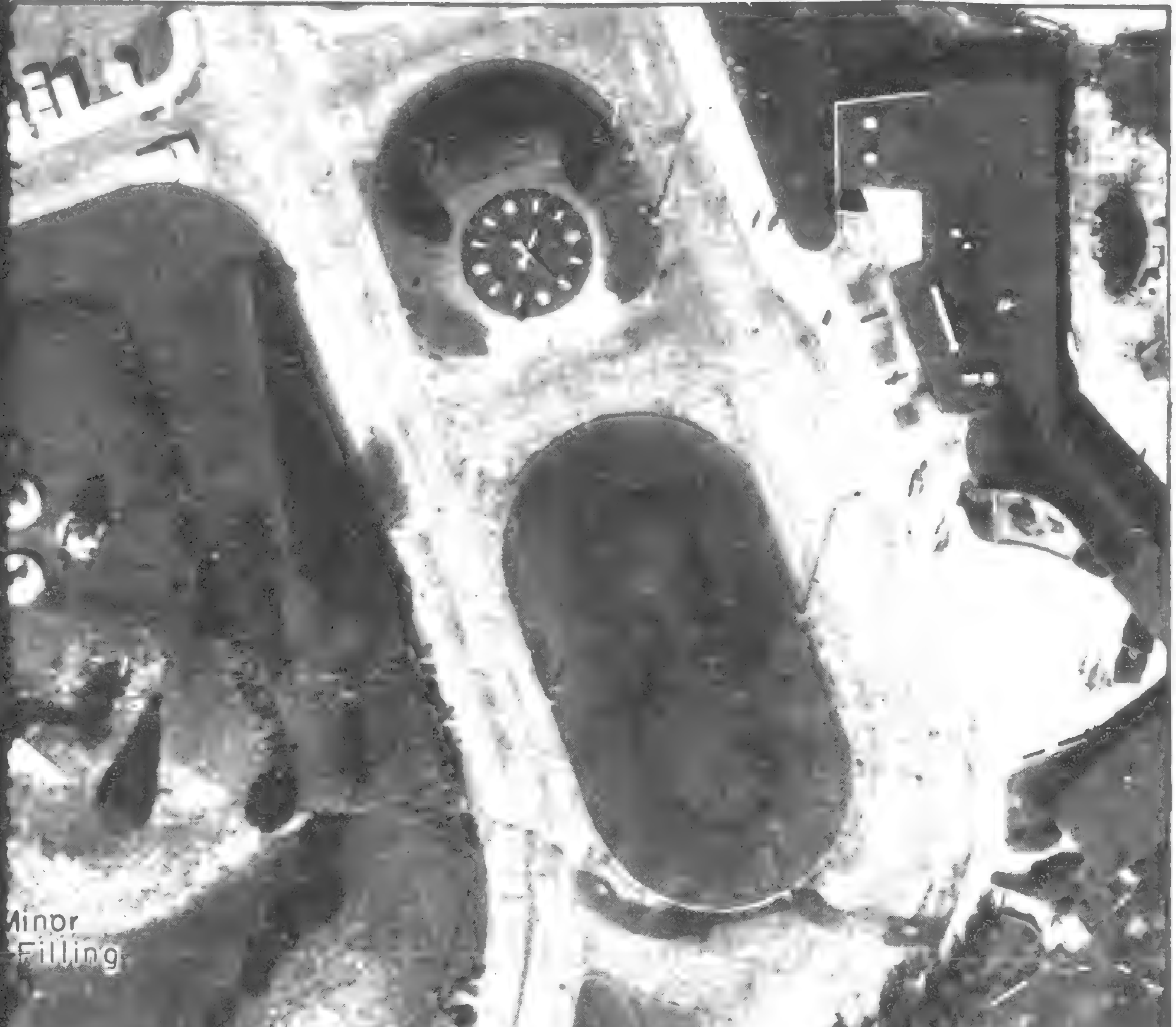
CROSS SECTIONS B-B,
C-C and D-D

MARCH, 1970 0-406A

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 11


Minor Filling
Picture Orientation, Fig
RETAINING WALL
GRADE TO 2:1 SLOPE
ACCESS
RETAINING WALL


Minor
Filling
on, Fig. 14
ESS ROAD

N

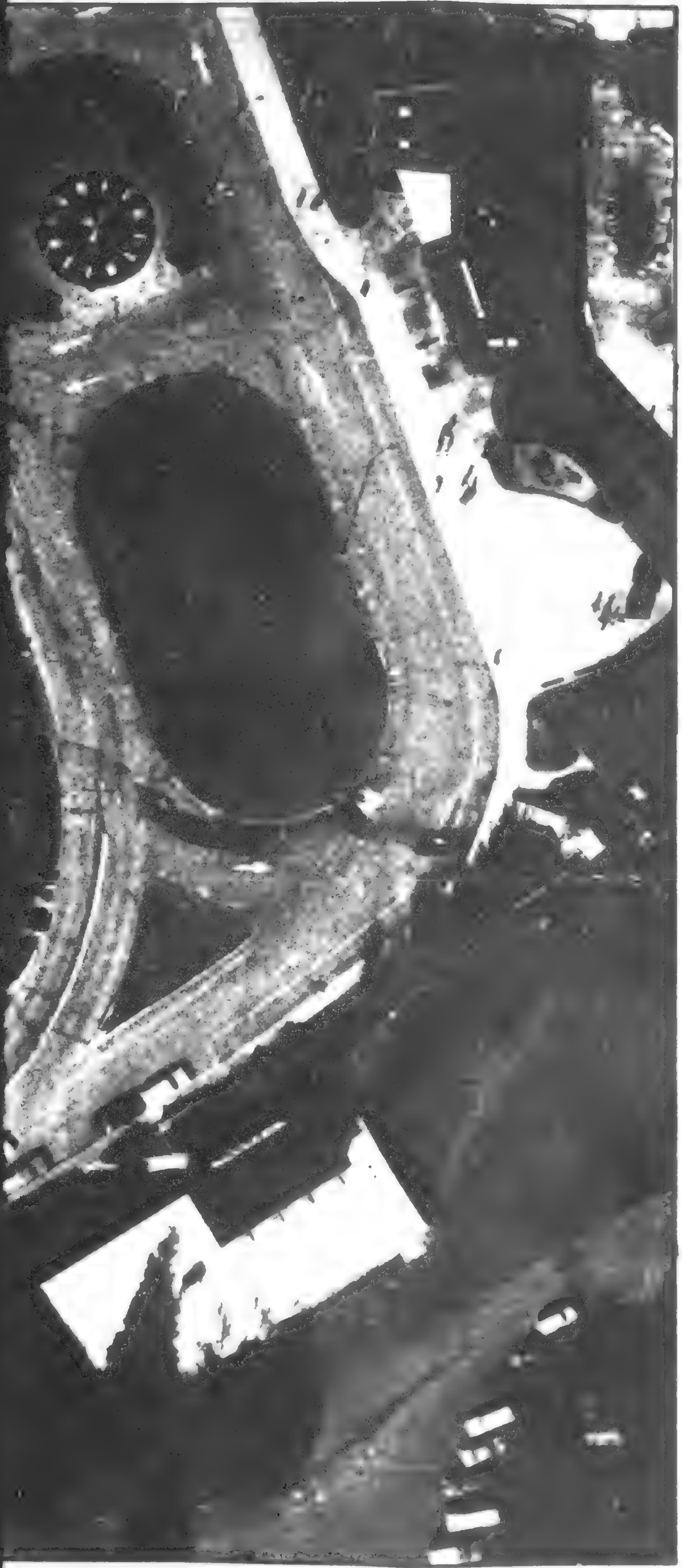
Scale: 1" = 5

Aerial photograp

NOTE:

The lateral exte
retaining walls

FOUNDATI
PORT
PLAN OF F
MARCH, 1970
SHANNON & WI
PORTLAN



Scale: 1" = 50' (approx.)

Aerial photography dated March 8, 1969

NOTE:

The lateral extent of proposed retaining walls is only approximate

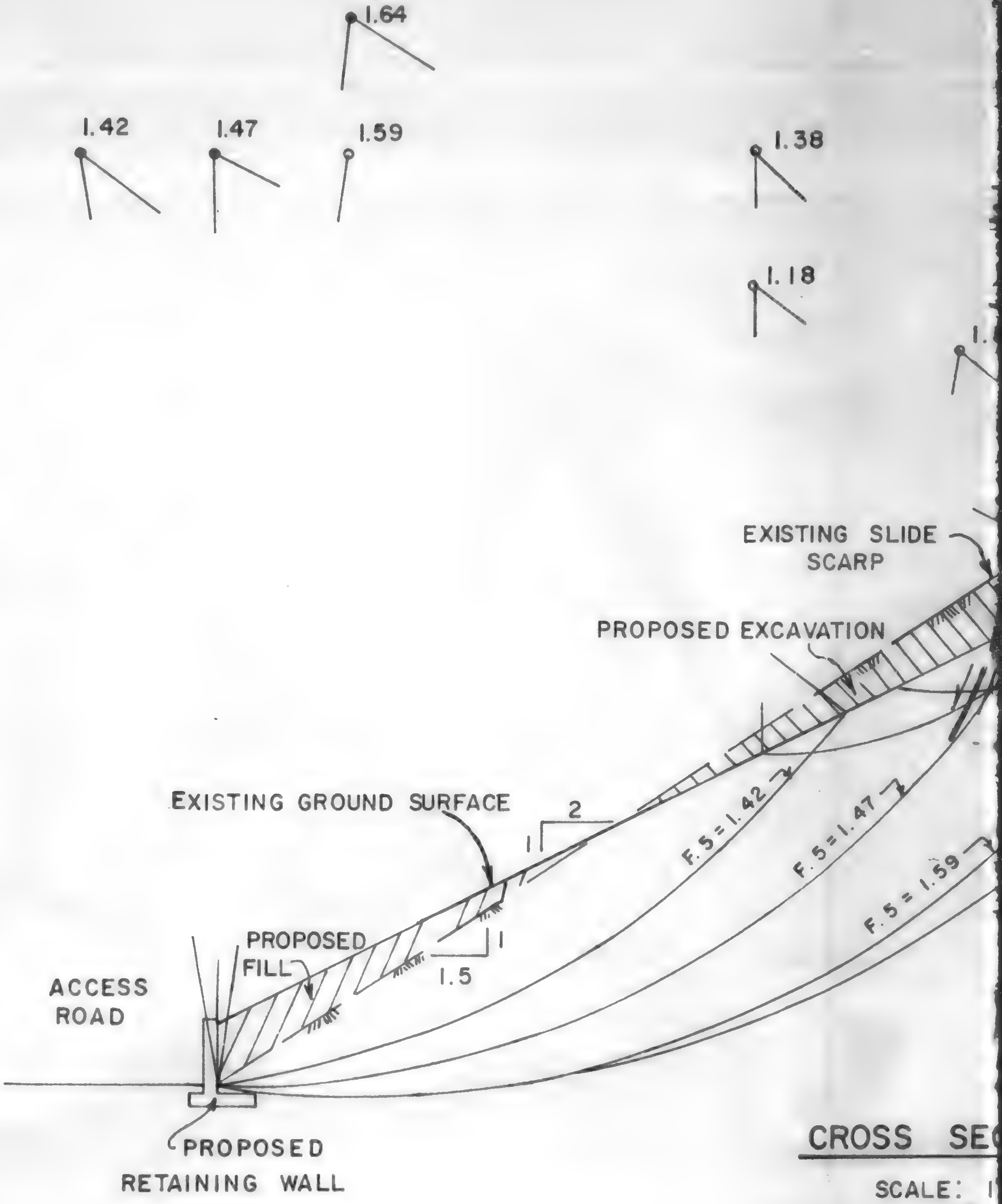
FOUNDATION INVESTIGATION
OMSI
PORTLAND, OREGON

PLAN OF REMEDIAL WORK

MARCH, 1970 0-406A

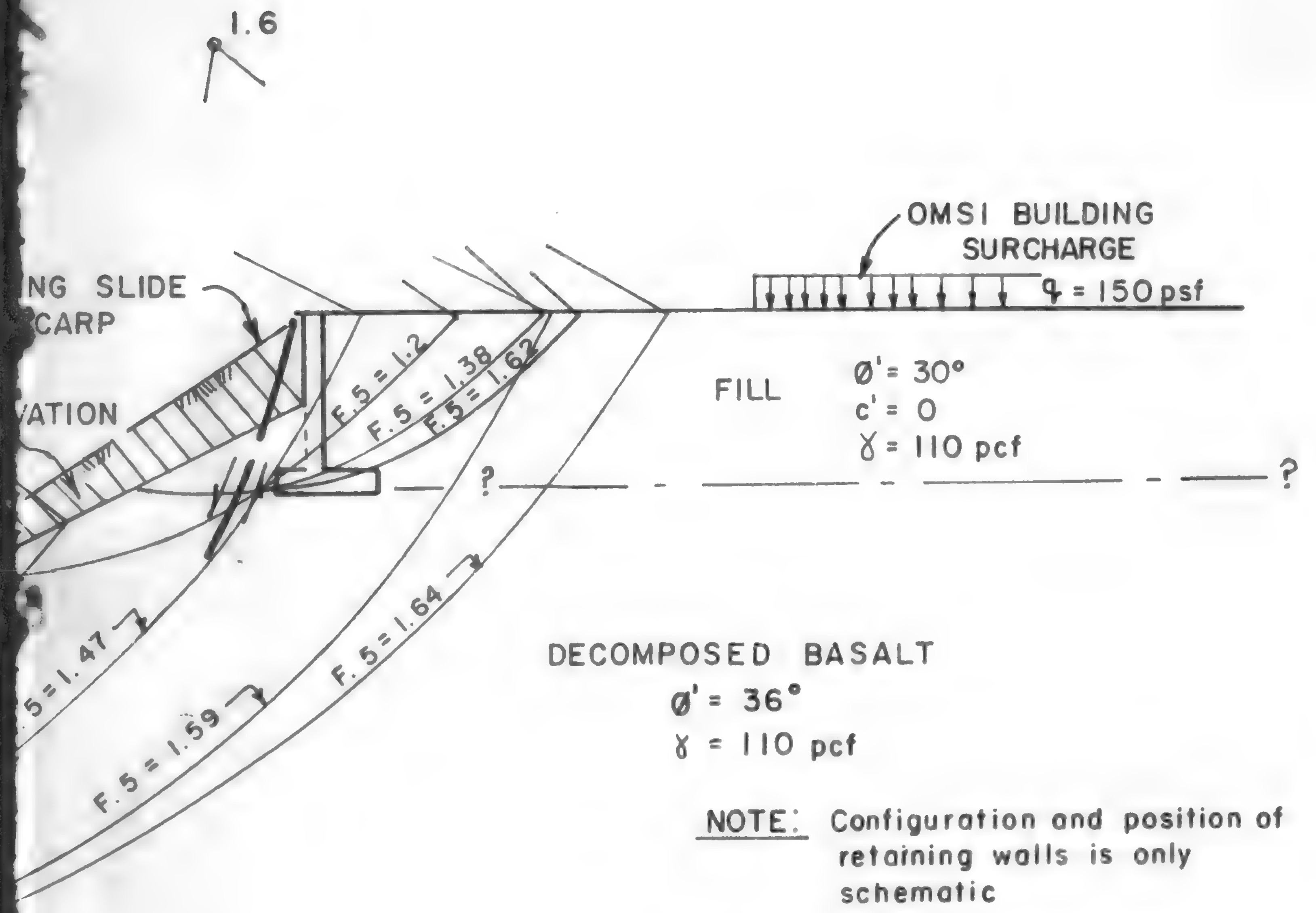
SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 12


1.64
1.42
1.47
1.59
1.38
1.18
1.
EXISTING SLIDE SCARP
PROPOSED EXCAVATION
EXISTING GROUND SURFACE
2
1
F.S = 1.42
F.S = 1.47
F.S = 1.59
PROPOSED FILL
1
1.5
ACCESS ROAD
PROPOSED RETAINING WALL

CROSS SEC

SCALE: 1


1.6
OMSI BUILDING SURCHARGE
q = 150 psf
NG SLIDE
CARP
VATION
F.S = 1.2
F.S = 1.38
F.S = 1.62
FILL
Ø' = 30°
c' = 0
γ = 110 pcf
?
?
F.S = 1.47
F.S = 1.64
F.S = 1.59
DECOMPOSED BASALT
Ø' = 36°
γ = 110 pcf

NOTE: Configuration and position of retaining walls is only schematic

CROSS SECTION B-B

SCALE: 1" = 10'

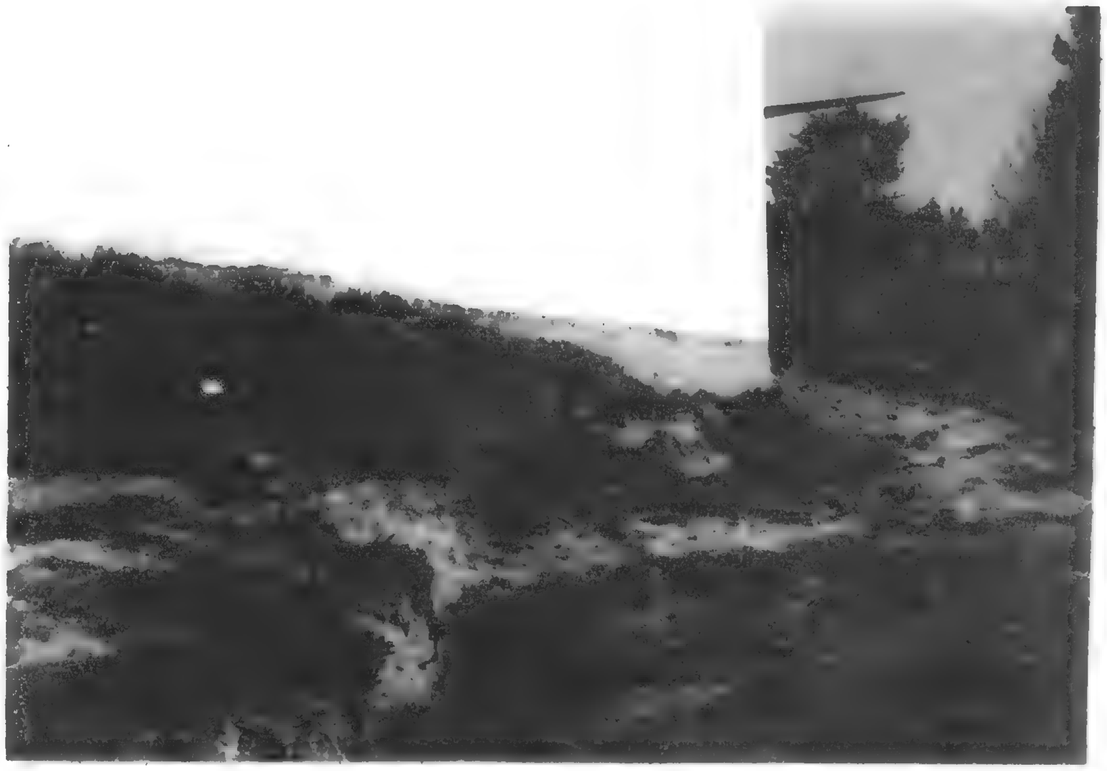
FOUNDATION INVESTIGATION
OMSI
PORTLAND, OREGON

STABILITY ANALYSIS
(PROPOSED SCHEME)

MARCH, 1970
0-406A

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 13



SOUTHEAST CORNER OF OMSI

(APRIL, 1970)

FIG. 14

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE · PORTLAND · [illegible]

REPORT TO
OREGON STATE HIGHWAY DEPARTMENT
SALEM, OREGON
AND
BUREAU OF PARKS
PORTLAND, OREGON

REPORT NO. 2
OMSI-ZOO LANDSLIDE INVESTIGATION
PORTLAND, OREGON

JULY 1, 1969

Shannon and Wilson, Inc.
Soil Mechanics and Foundation Engineers
1632 S. W. Morrison Street
Portland, Oregon 97205

TABLE OF CONTENTS

Page

A. INTRODUCTION 1

B. STABILITY ANALYSES 2

C. BUTTRESS DESIGN

1. Design Assumptions 5
2. Buttress Configuration and Location 5
3. Buttress Construction 6
4. Drainage System 7

D. RECOMMENDED INSTRUMENTATION 8

E. COMMENTS ON POSSIBLE REMEDIAL WORK BELOW OMSI 8

F. LIMITATIONS 8

LIST OF FIGURES

FIGURE

1. Plan of Explorations
2. Relationship Between ϕ' Values in Overburden and Failure Zone: (F.S.=1.0)
3. Ground Surface Profile and Seismic Data Along Toe of Existing Slope
4. Buttress Section, M-M' (Sta. 103+50)
5. Buttress Section, N-N' (Sta. 98+00)
6. Plan of Buttress Location
7. Geologic Cross Section A-A'
8. Geologic Cross Section B-B'
9. Cross Section 1-1: Possible Remedial Work Below OMSI

APPENDICES

APPENDIX A Typical Stability and Design Computations

APPENDIX B Clay Mineral Analysis: Boring B-6A, Sample S-3

REPORT NO. 2
OMSI-ZOO LANDSLIDE INVESTIGATION
PORTLAND, OREGON

A. INTRODUCTION

This report presents the results of our engineering design studies for a rock buttress which, in our opinion, is the most practical means of improving the stability of the landslide at the OMSI-Zoo Complex in Portland, Oregon.

As discussed in our Report No. 1, dated June 6, 1969, the landslide is located approximately 2 miles southwest of downtown Portland along a portion of S. W. Canyon Road (Oregon State Highway SSR26). Movement of the landslide has occurred at a variable rate since the winter of 1958-59. Available information indicates that most of the movement in any one year occurs during periods of increased precipitation, generally between October and March. During the past winter (1968-1969), precipitation amounts were significantly higher than in previous years with the result that increased rates of movement occurred in the landslide mass. At one location, near the head of the slide, a movement of approximately 8 inches was measured which is slightly less than the total movement over the previous four years.

The results of our subsurface explorations, laboratory testing and preliminary studies and recommendations with respect to the landslide were presented in our Report No. 1. This report, Report No. 2, presents a discussion of the design assumptions, methods of analyses, and specific recommendations for the design and construction of the recommended rock buttress at the toe of the landslide mass, along S. W. Canyon Road. Also presented herein are comments on possible remedial work for stabilizing the slope adjacent to and downslope of the Oregon Museum of Science and Industry Building (OMSI). Two Appendices are included with the report: Appendix A presents typical design calculations from the study; and Appendix B presents the results of a clay mineral analysis performed on a sample of brick red clay taken from boring B-6A, sample S-3. The analysis was conducted by Dr. James I. Mueller, a Professional Ceramic Engineer at the University of Washington.

B. STABILITY ANALYSES

As part of our analyses of existing stability, special laboratory torsion shear tests were conducted on clay material located within the probable zone of failure. These tests, discussed in our Report No. 1, provided an effective angle of shearing resistance, ϕ'_f, of from 10 to 12 degrees with some cohesion, c'. In our opinion, since the clay minerals consist primarily of kaolinite (see Appendix B), these values are realistic values of the shear strength parameters within the zone of failure, although it is our opinion that the cohesion , c', probably approaches zero. Standard triaxial tests performed on a sample of the surficial clayey silt (Portland Hills Silt) indicated an effective angle of shearing resistance, ϕ'_o, on the order of 34^o.

In order to evaluate the driving and resisting forces involved in the existing OMSI-Zoo landslide, several assumptions were made as part of our study. As the location (depth) and orientation of the failure zone was of primary importance in the analysis, it was assumed to be moving along a nearly horizontal plane located approximately at elevation 552, through borings B-4, D&M #3, B-8 and B-9, refer to Fig. 1. It was further assumed that the groundwater level in the landslide mass during the winter months was at the ground surface and that, at this time, the factor of safety (F.S.), must approach 1.0.

The driving force tending to move the slide in a nearly horizontal direction toward S. W. Canyon Road consists of two components. One component of the driving force is the hydrostatic pressure. For this landslide, the depth to the probable failure zone at the head of the slide, i.e., 88 feet, provides a total hydrostatic driving force in the order of 242 kips. The other portion of the driving force is composed of an earth pressure force (P_A) which is a function of a coefficient of active earth pressure (k_a). This coefficient, in turn, is a function of the effective angle of shearing resistance (ϕ'_o) of the soils overlying the failure zone at the head of the slide.

The forces tending to resist movement consist of the shearing resistance along the failure zone and some minor passive resistance at the toe of the landslide. The shearing resistance along the failure zone is a function of the effective stresses, i.e., overlying effective unit weight and an effective angle of shearing resistance (ϕ'_f) which is a residual not a peak value.

On the basis of the foregoing assumptions, i.e., a F.S.=1, groundwater level at the ground surface and an assumed configuration of the landslide mass, the relationship of the effective angle of shearing resistance of the overburden soils (ϕ'_o) to the effective angle of shearing resistance (ϕ'_f) was investigated. Fig. 2 shows the results of this study in the form of a curve of ϕ'_o vs. ϕ'_f (F.S.=1). The curve shows that if the angle of shearing resistance, ϕ'_o, of the overburden soils is taken equal to 34°, as obtained from laboratory triaxial testing, the effective angle of shearing resistance in the failure zone (ϕ'_f) must be approximately 8.5°. On the other hand, to obtain an angle of shearing resistance of from 10° to 12° in the failure zone, which values were obtained from laboratory torsion shear tests, requires that the ϕ'_o of the overburden soils at the head of the slide vary from 17° to 3°

respectively, refer to Fig. 2. In the calculations it was assumed that values of apparent cohesion, c', were equal to zero.

The values of the total driving forces, P_T, for each assumption of ϕ'_o are shown on the curve ($P_T=P_A$(earth) + P_W(hydrostatic)).

In our opinion the most realistic values of the effective angle of shearing resistance, ϕ'_o, of the overburden soils range from 34°, as obtained from triaxial testing, and 17°, calculated from an assumption of ϕ'_f equal to 10°. However, the value of ϕ'_o equal to 34° may be somewhat on the high side because of indeterminant variations in laboratory test conditions from those actually existing in the field. Hence, for our study we considered that a practical and satisfactory buttress could be designed for a factor of safety, F.S.=1.25, using the assumptions: $\phi'_o=17^\circ$ and $\phi'_f=10^\circ$.

On these assumptions, the total required resisting force of the toe buttress was determined to be approximately 100 kips per lin. ft. Consideration was given in the calculations to the effect of the raising of the grade of S. W. Canyon Road as presently planned by the State Highway Department. Using this design value, the resulting factors of safety for two other conditions were calculated as a matter of interest: one condition, assuming a ϕ'_o equal to 34°, resulted in a factor of safety, F.S.=1.29; the other condition, assuming a ϕ'_o equal to 3°, resulted in a factor of safety, F.S.=1.21. Therefore, the calculations suggest that the buttress will provide sufficient resisting force for a wide range of subsurface conditions and characteristics and, yet, at the same time, not be overly conservative and, hence, uneconomical. The design also assumes that positive steps will be taken to evaluate and repair where necessary the sewer network in and immediately adjacent to the slide. A specific recommendation was made for such work in a section entitled "Discussion of Preliminary

Studies" in our Report No. 1.

C. BUTTRESS DESIGN

1. Design Assumptions. In the design of the buttress to provide a total resisting force in the order of 100 kips per lin. ft. certain design assumptions were made as follows: (a) The buttress material would consist of fairly clean, well-graded pit run basalt rock from Cobb's quarry and that it would have an angle of shearing resistance (ϕ') of at least 40° and an in-place unit weight of approximately 130 lbs. per cu. ft. (b) It was further assumed that the buttress would be adequately protected from saturation by a drainage (filter) blanket and a subdrain system which would be connected to the existing storm sewer system at the toe of the slope. (c) The bottom of the excavation for the buttress would be sufficiently cleaned of slide zone material to result in an angle of shearing resistance ϕ', along the base of the buttress of 35°.

In addition, a 5-foot depth to the failure zone below the existing ground surface at the toe of the slide was assumed to exist throughout the proposed buttress location. This depth was based on the results of the geophysical survey, seismic line S-3, and boring B-9. The seismic data along S-3, which is presented in Fig. 3, indicates that a formational boundary between 2,500f/s material and 8,500f/s material is present at a depth of from 4 to 10 feet below the existing ground surface between highway stations 98+00 and 104+00, although somewhat deeper at the latter station. In our opinion, this depth represents for practical purposes the base of the failure zone within a range of from 2 to 3 feet. The exact depth of excavation for the buttress will from necessity be determined during construction.

2. Buttress Configuration and Location. Based on the results of our design analysis and study we recommend that a

rock buttress of the configuration shown in Figs. 4 and 5 be constructed between highway stations 98+00 and 104+00 (approx.). A plan view of the recommended buttress location is shown on Fig. 6. Figs. 7 and 8 show the buttress size and shape in relation to the total landslide profile. The latter figures were taken from our Report No. 1 and correspond to Geologic Sections A-A' and B-B', located as shown in Fig. 1.

Our design requires that the buttress have a minimum height above the failure zone of 30 feet. Therefore, the top of the buttress will decrease from approximately elevation 602 at station 104+00 to about elevation 573 at station 98+00; a decrease of approximately 5 feet per 100 feet of buttress. Our analysis indicates that the buttress base width required for stability varies from a maximum of 50 feet at station 103+50 to 104+00, to the minimum width of 28 feet occurring at station 98+00 to 99+00. Between these stations the width of the buttress should change linearly.

3. Buttress Construction. The buttress design presented in the foregoing is based on the construction being accomplished during the dry season. In our opinion, construction of the buttress at any other time should not be attempted because of the risk of triggering large scale movements of the landslide mass. It is further recommended that construction of the buttress be accomplished in sections not more than 150 feet in width so as to limit the loss during excavation of the available sliding and passive resistance and, hence, minimize the risk of triggering additional movements. The construction should begin at station 98+00 and proceed in continuous sections toward the underpass. The buttress sections shown in Figs. 4 and 5 show an excavation slope of 1H:1V for the hillside material. Steeper cut slopes, should they be found possible, would be permissible.

It is recommended that the buttress material consist of relatively unweathered basalt quarry run rock with not more than 5 percent by weight passing the No. 200 sieve (wet analysis). The recommended maximum rock size is 14 inches although the use of a larger size material can be evaluated. The material should be placed in lifts not in excess of 18 inches and compacted by 4 passes of a vibratory roller having a static weight of at least 8 tons. Above the 30-foot excavation level, on-site material may be used in the buttress fill provided that the material is compacted to a density of at least 95 percent of the standard Proctor maximum dry density and, in addition, that the recommended filter blanket is extended to the full height of the buttress fill as shown in Figs. 4 and 5.

4. Drainage System. The drainage system recommended for the buttress is shown in Figs. 4 and 5. The drainage (filter) blanket should consist of a well-graded 1-1/2 inch minus clean (washed) crushed rock material with not more than 2 percent passing the No. 200 sieve. It should have a thickness of at least 2-feet. It is of primary importance that the filter blanket at the base of the buttress be placed in contact with the dense weathered basalt. The filter blanket should be designed to drain to a collection system located beneath the outboard toe of the buttress. A detail of the recommended collection system is shown in the upper portion of Fig. 4. The collector drain pipe should consist of a 6-inch diameter perforated asphalt-coated pipe or similar surrounded by a 12-inch thick envelope of washed pea gravel or washed 1/2 to 1/4 inch crushed rock. A minimum cover of 2 feet of filter material over the pea gravel envelope is recommended for the protection of the collector drain pipe. In order to permit flushing the collector pipe, a stand-pipe with manhole cover should be provided near station 104+00 for periodic clean-out. Suitable means for removal of the collected seepage must be provided, perhaps through the connection to an existing storm or sewer system.

D. RECOMMENDED INSTRUMENTATION

In order to monitor ground movements during construction of the buttress, we recommend that instrumentation (in addition to that presently operative) be installed near the ground surface in the landslide mass to warn of any dangerous trend of movement developing in the hillside. Such instrumentation would consist of reference hubs or more sensitive extensometers. The exact number, location and type of such monitoring equipment can be discussed with you as the buttress design is finalized.

E. COMMENTS ON POSSIBLE REMEDIAL WORK BELOW OMSI

Some sloughing and local slope movements have occurred in the slope adjacent to and downslope of the Oregon Museum of Science and Industry Building (OMSI). In addition, ground movements near the southwest corner of the building are evident and are considered associated with the massive landslide investigated in this study. At the present slope angle (approximately 35°) the slope downhill of OMSI will, in our opinion, continue to show signs of local slope instability. One method of stabilization, which would locally tend to increase the overall factor of safety of the slope, would be to flatten the slope by constructing a timber crib wall at the toe. Typical side and front views of such a timber crib wall are presented with a general cross-section of the slope in Fig. 9. Specific recommendations as to the configuration of the crib wall and other design details, however, would require additional engineering study as noted in the Figure. In addition, a complete engineering study of OMSI, which is beyond the scope of this report, would reveal if any additional measures should be adopted to minimize the risk of damage to OMSI as a result of future ground movements.

F. LIMITATIONS

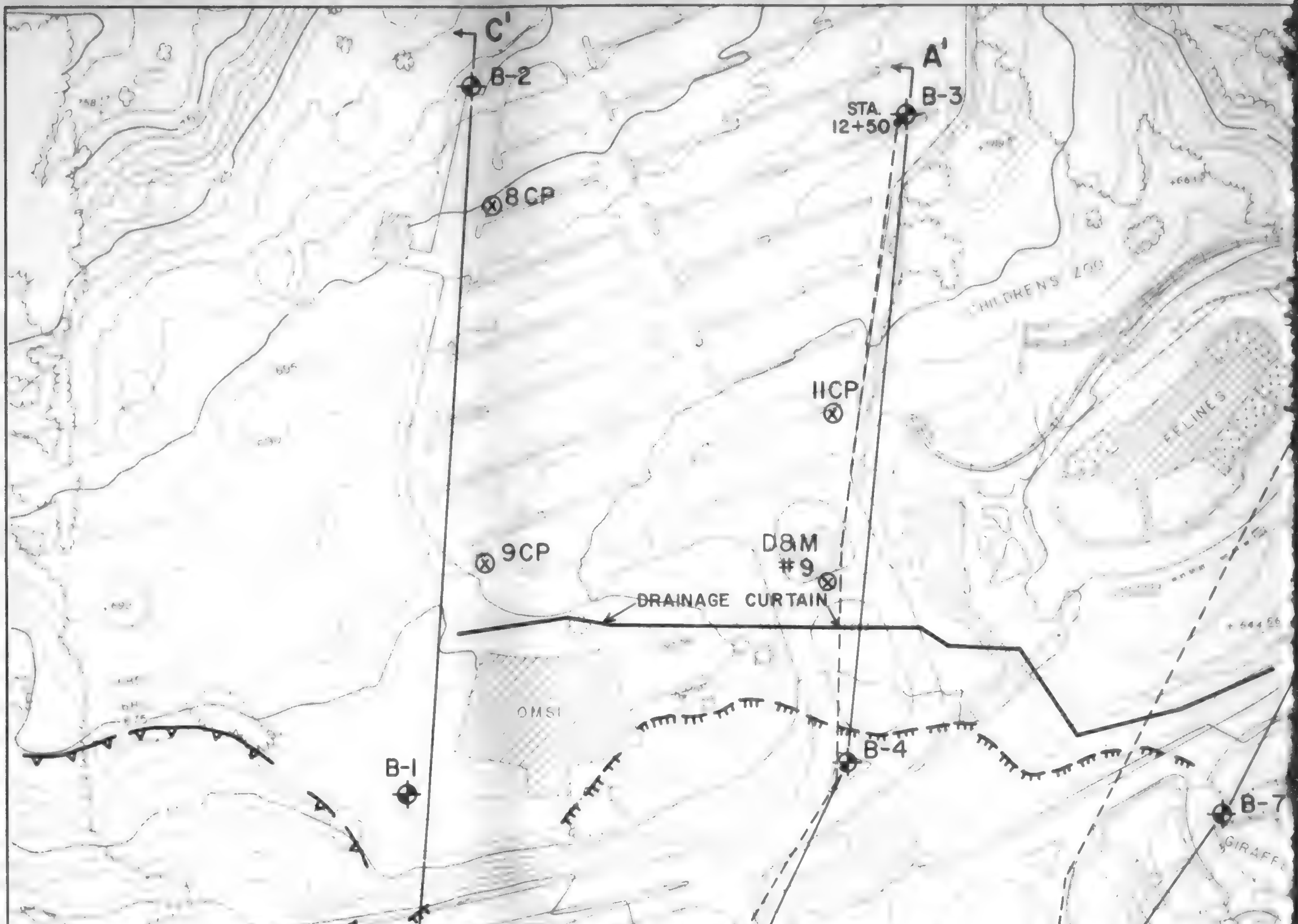
The conclusions and recommendations contained in this report assume that the exploratory borings are representative of the subsurface conditions throughout the site, i.e., the subsurface conditions everywhere are not significantly different from those disclosed by the borings. If, during construction, subsurface conditions different from those encountered in the exploratory holes are observed or encountered, or appear to be present beneath or beyond excavations we should be advised at once so that we can observe and review these conditions and reconsider our recommendations where necessary. If there is a substantial lapse of time between the submission of this report and the start of work at the site, or if conditions have changed due to natural causes or construction operations at or adjacent to the site, it is recommended that an engineering review of this report be made to determine the applicability of the conclusions and recommendations considering the changed conditions or time lapse.

The owner should make certain that the recommendations in this report, together with those which may be given subsequently, are incorporated into the plans and further that these recommendations are properly carried out during construction. In this respect, we would appreciate the opportunity to review all pertinent plans and specifications made in connection with the buttress.

SHANNON & WILSON, INC.

by L. Radley Squier
L. Radley Squier, P.E.

REGISTERED PROFESSIONAL ENGINEER
6029
OREGON
SEPT. 8, 1967
L. RADLEY SQUIER


C'
B-2
A'
B-3
STA. 12+50
8CP
CHILDREN'S ZOO
FELINES
11CP
9CP
D&M #9
DRAINAGE CURTAIN
OMSI
B-1
B-4
B-7
GIRAFFE
D&M 3
PADDOCKS
STA. 0+00
S-3
B-5
CANYON ROAD
C
B-8 & 8A
STA. 0+00
S-1
A
B-9
B
STA. 0+00
10+00
S-2
N
SCALE IN FEET
0
50
100
200
300

LEGEND

B-1 BORINGS BY SHANNON & WILSON - APR., MAY, 1969

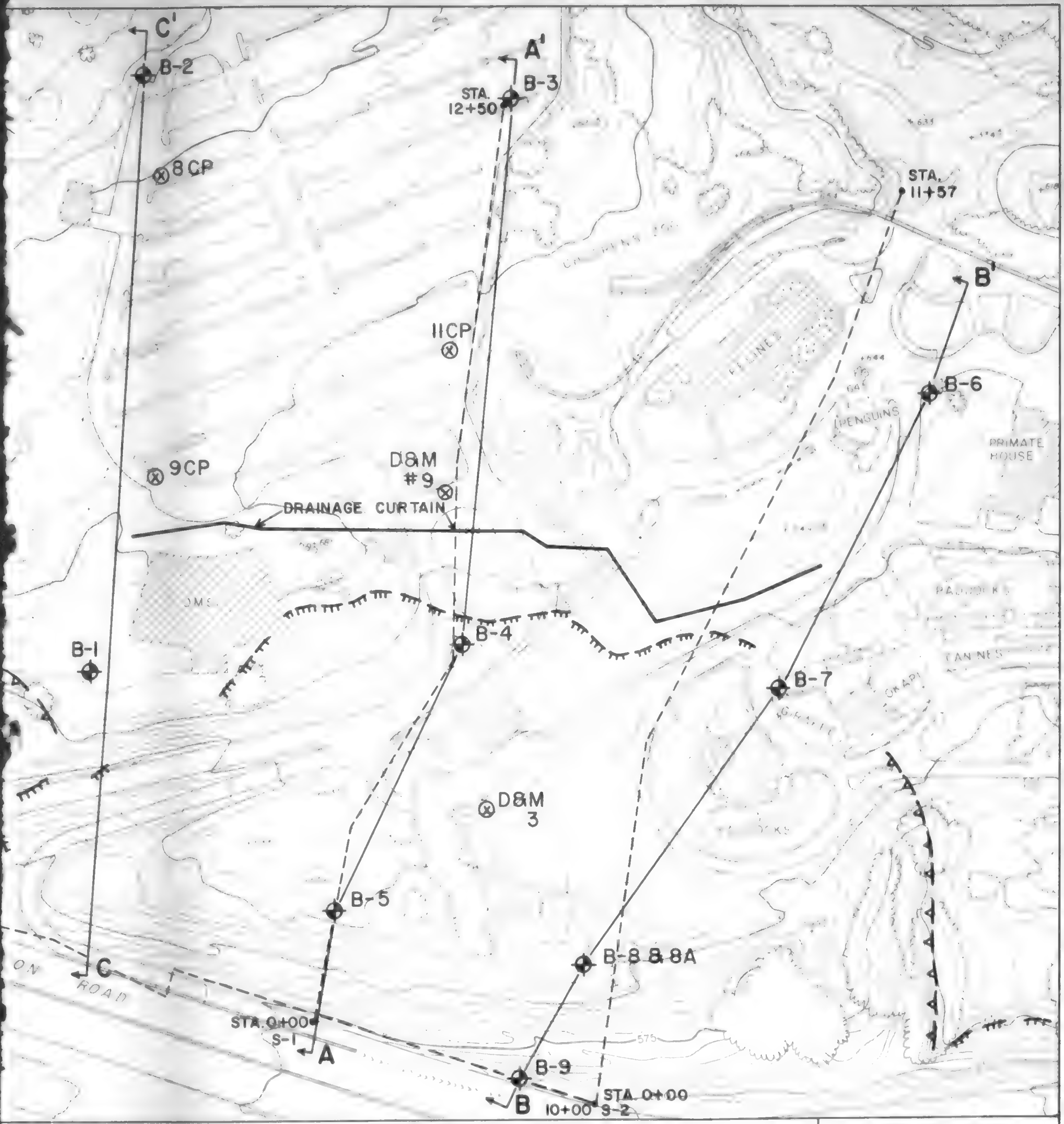
11CP D&M BORINGS MADE BY OTHERS - 1956 - 1960

ACTIVE SCARP

OLD INACTIVE SCARP

GEOLOGIC SECTIONS

SEISMIC LINES MADE BY GEO-RECON., INC., SEATTLE, WASH.


C'
A'
B-2
STA. 12+50
B-3
8CP
STA. 11+57
B'
11CP
FELINES
B-6
PENGUINS
PRIMATE HOUSE
D&M #9
9CP
DRAINAGE CURTAIN
PADDOCKS
B-4
B-1
CANINES
B-7
OKAPI
D&M 3
B-5
B-8 & 8A
C
ROAD
STA. 0+00
S-1
A
B-9
B
STA. 0+00
10+00 S-2
575

EGEND

ANNON & WILSON – APR., MAY, 1969

BY OTHERS - 1956 - 1960

CARP

ONS

ADE BY GEO-RECON., INC., SEATTLE, WASH.

N

SCALE IN FEET

0 50 100 200 300

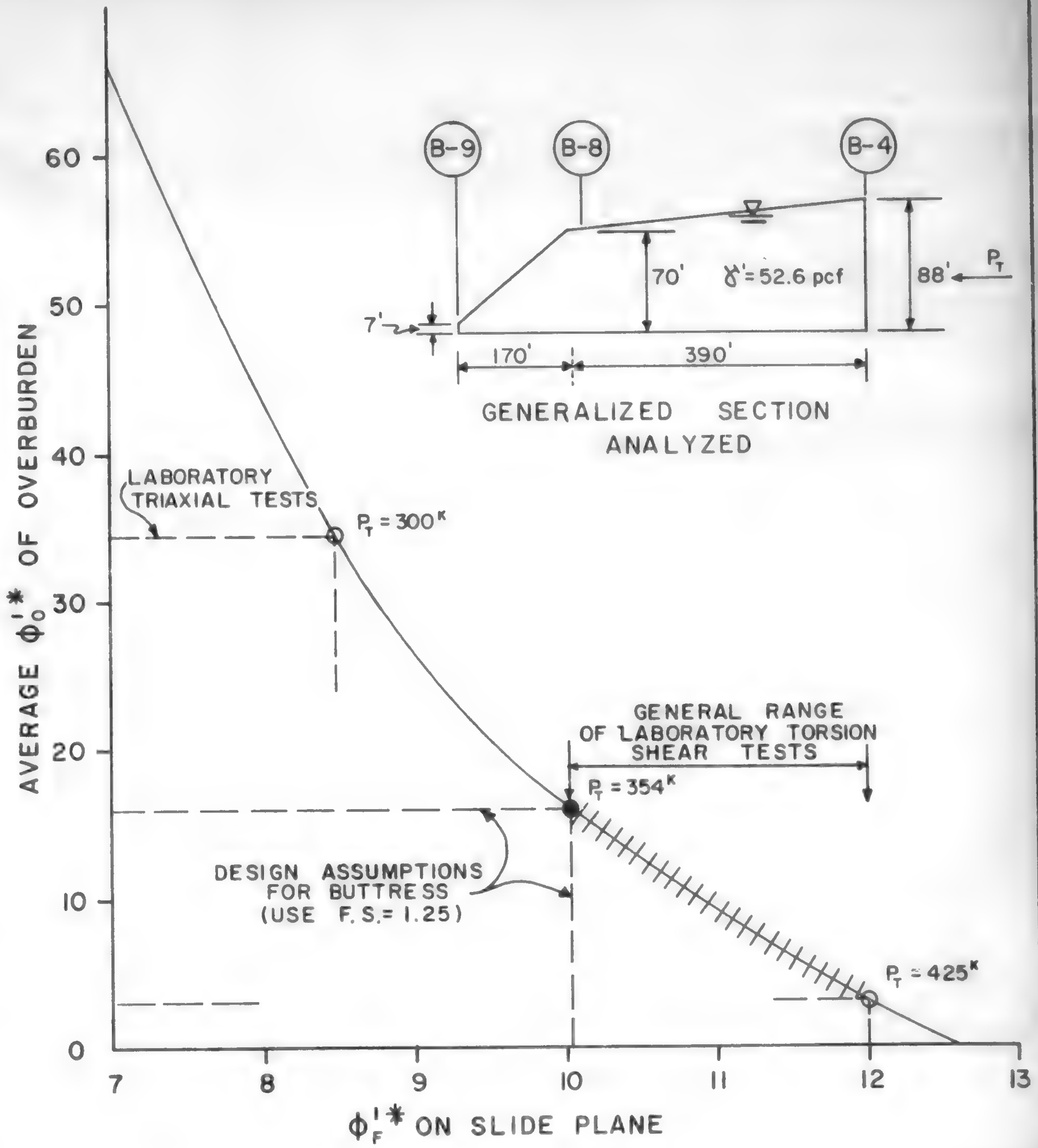
OMSI–ZOO SLIDE
PORTLAND, OREGON

PLAN OF EXPLORATION

0-406 JUNE, 1969

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 1



* EFFECTIVE ANGLE OF SHEARING RESISTANCE

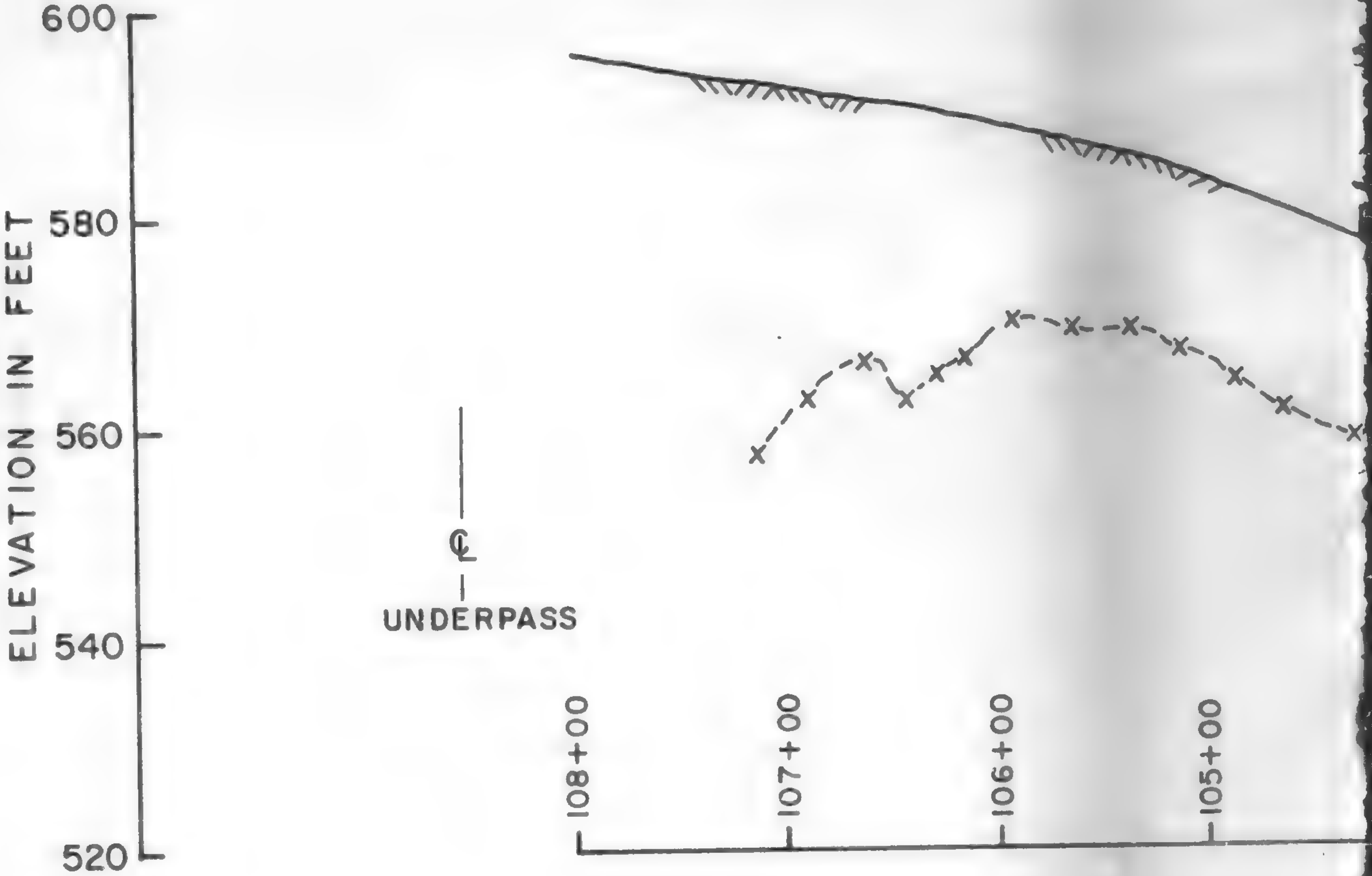
OMSI-ZOO SLIDE
PORTLAND, OREGON

RELATIONSHIP BETWEEN ϕ' VALUES IN OVERBURDEN AND FAILURE ZONE (F.S. = 1.0)

0-406 JUNE, 1969

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 2



LEGEND

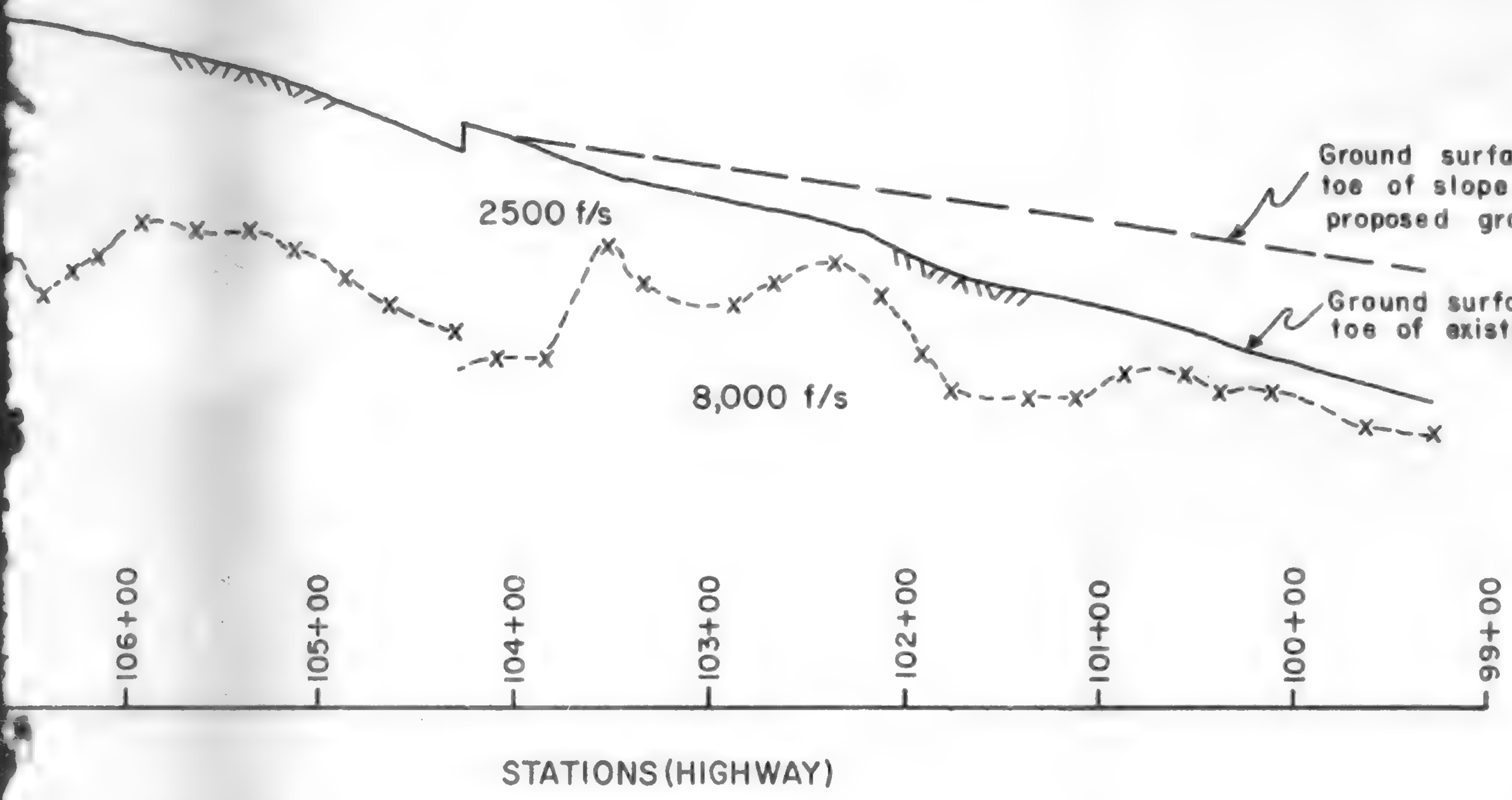
x COMPUTED DEPTH POINT (SEISMIC LI

--- ASSUMED FORMATIONAL BOUNDARY

f/s AVERAGE SEISMIC VELOCITY

SCALE

1" = 20' VERTICAL
1" = 100' HORIZONTAL



LEGEND

DEPTH POINT (SEISMIC LINE S-3)

ORMATIONAL BOUNDARY

SEISMIC VELOCITY

SCALE

20' VERTICAL

100' HORIZONTAL

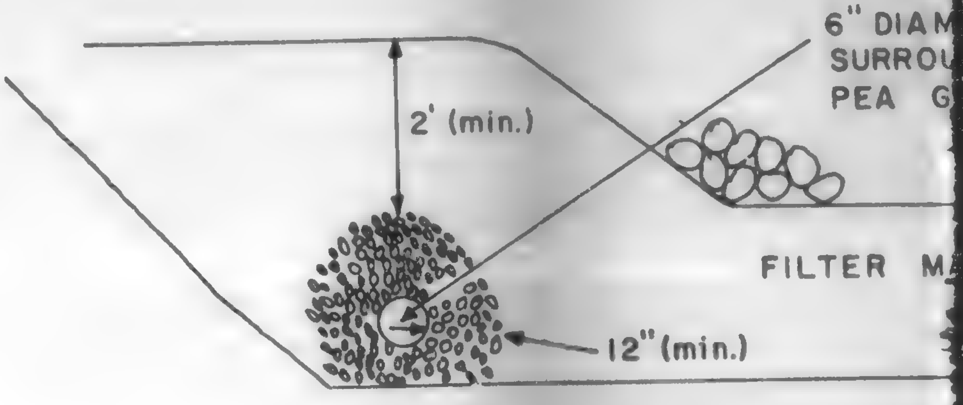
OMSI-ZOO SLIDE
PORTLAND, OREGON

GROUND SURFACE
PROFILE AND SEISMIC
DATA ALONG TOE OF
EXISTING SLOPE

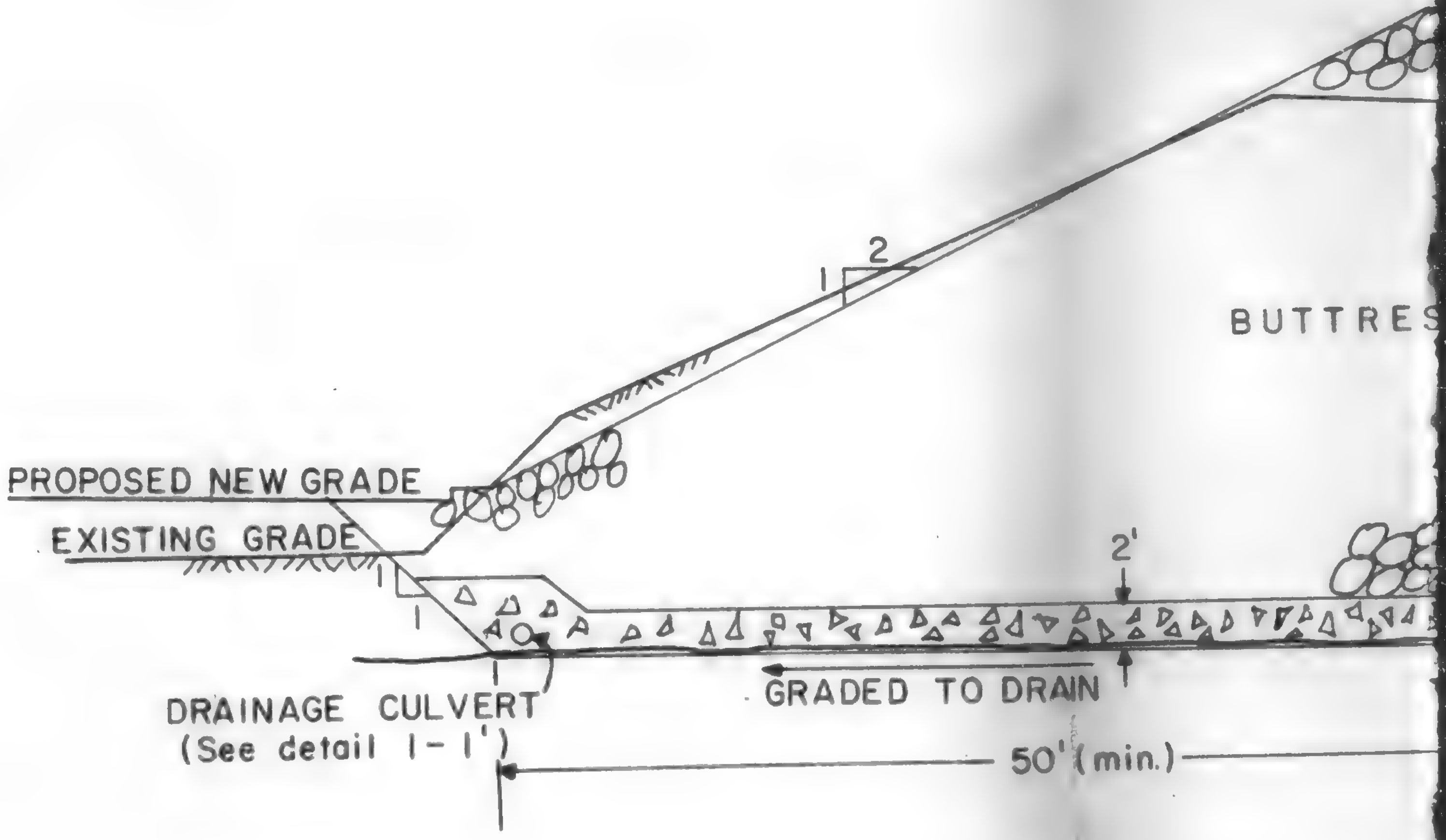
O-406 JUNE, 1969

SHANNON & WILSON, INC.
PORTLAND, OREGON

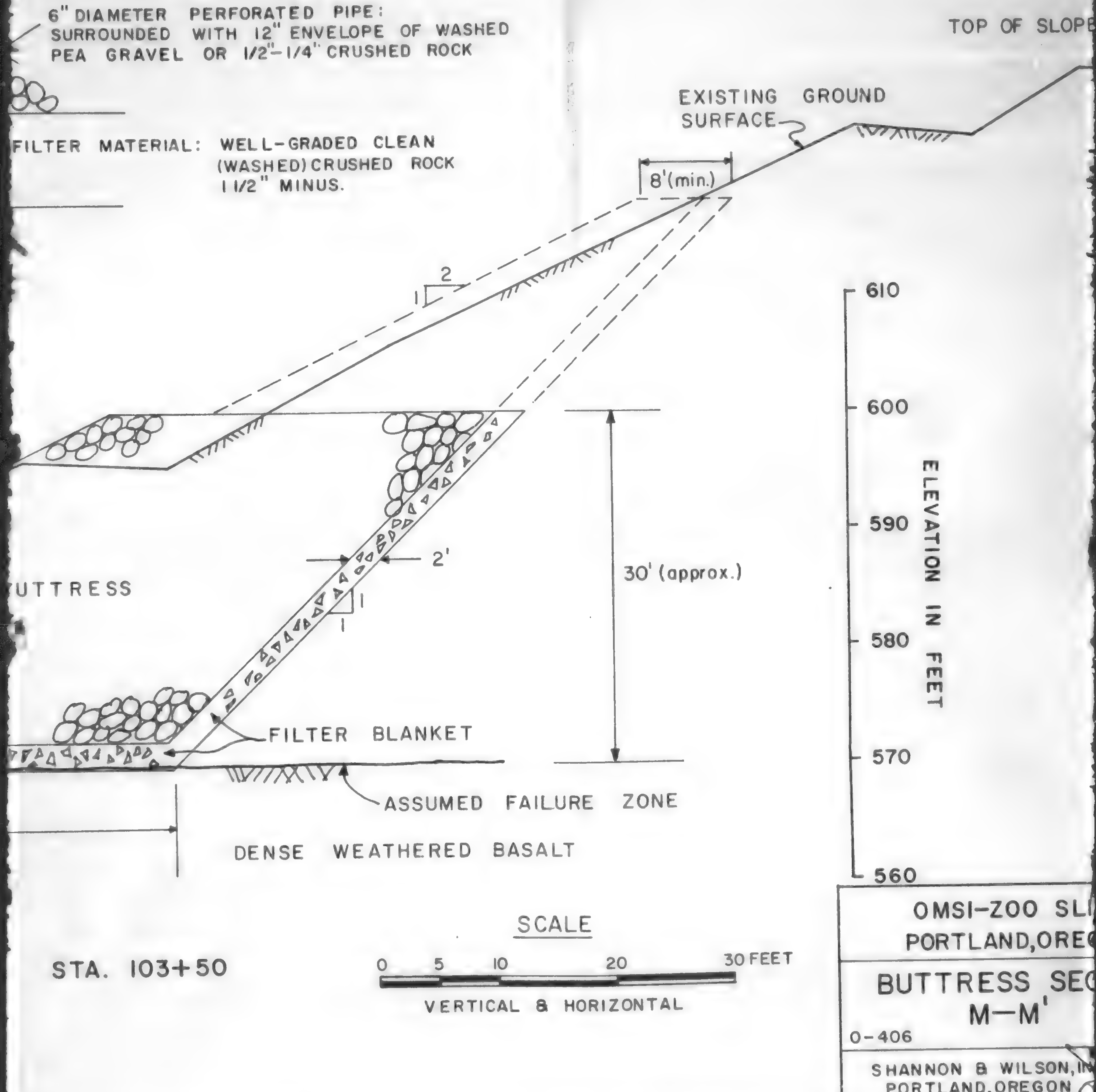
FIG. 3


6" DIAM
SURROU
PEA G
2' (min.)
FILTER MA
12" (min.)

DETAIL 1-1'


1
2
BUTTRES
PROPOSED NEW GRADE
EXISTING GRADE
1
1
2'
DRAINAGE CULVERT
(See detail 1-1')
GRADED TO DRAIN
50' (min.)

STA.

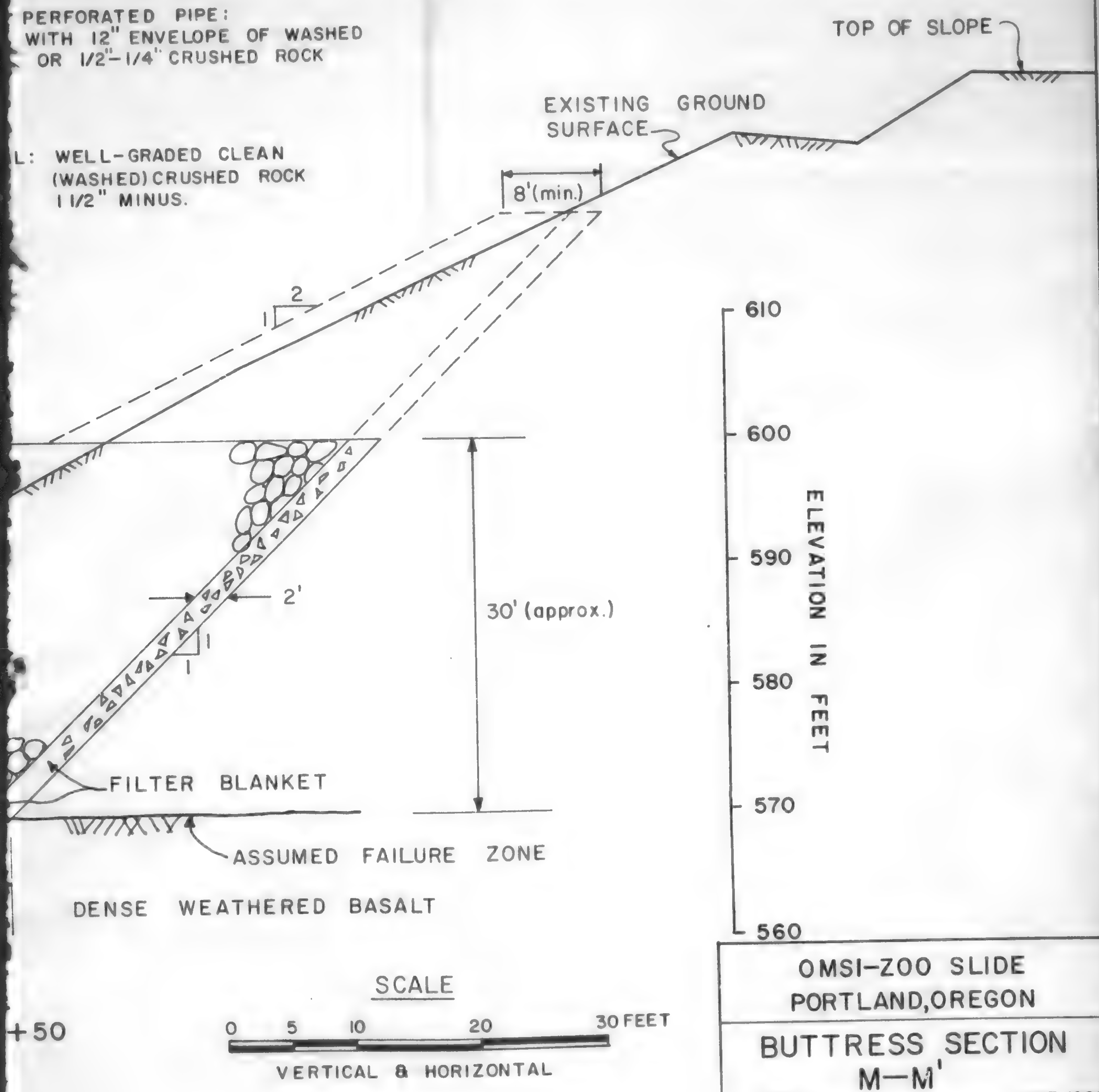

6" DIAMETER PERFORATED PIPE:
SURROUNDED WITH 12" ENVELOPE OF WASHED
PEA GRAVEL OR 1/2"-1/4" CRUSHED ROCK
FILTER MATERIAL: WELL-GRADED CLEAN
(WASHED) CRUSHED ROCK
1 1/2" MINUS.
TOP OF SLOPE
EXISTING GROUND
SURFACE
8'(min.)
2
1
600
UTTRESS
2'
1
1
30' (approx.)
FILTER BLANKET
ASSUMED FAILURE ZONE
DENSE WEATHERED BASALT
610
600
590
580
570
560
ELEVATION IN FEET
STA. 103+50
SCALE
0
5
10
20
30 FEET
VERTICAL & HORIZONTAL

OMSI-ZOO SL
PORTLAND,OREG

BUTTRESS SEC
M—M'

0-406

SHANNON & WILSON,IN
PORTLAND,OREGON


PERFORATED PIPE:
WITH 12" ENVELOPE OF WASHED
OR 1/2"-1/4" CRUSHED ROCK
L: WELL-GRADED CLEAN
(WASHED) CRUSHED ROCK
1 1/2" MINUS.
TOP OF SLOPE
EXISTING GROUND
SURFACE
8'(min.)
2
1
610
600
590
580
570
560
ELEVATION IN FEET
30' (approx.)
2'
1
1
FILTER BLANKET
ASSUMED FAILURE ZONE
DENSE WEATHERED BASALT
+50
SCALE
0
5
10
20
30 FEET
VERTICAL & HORIZONTAL

OMSI-ZOO SLIDE
PORTLAND, OREGON

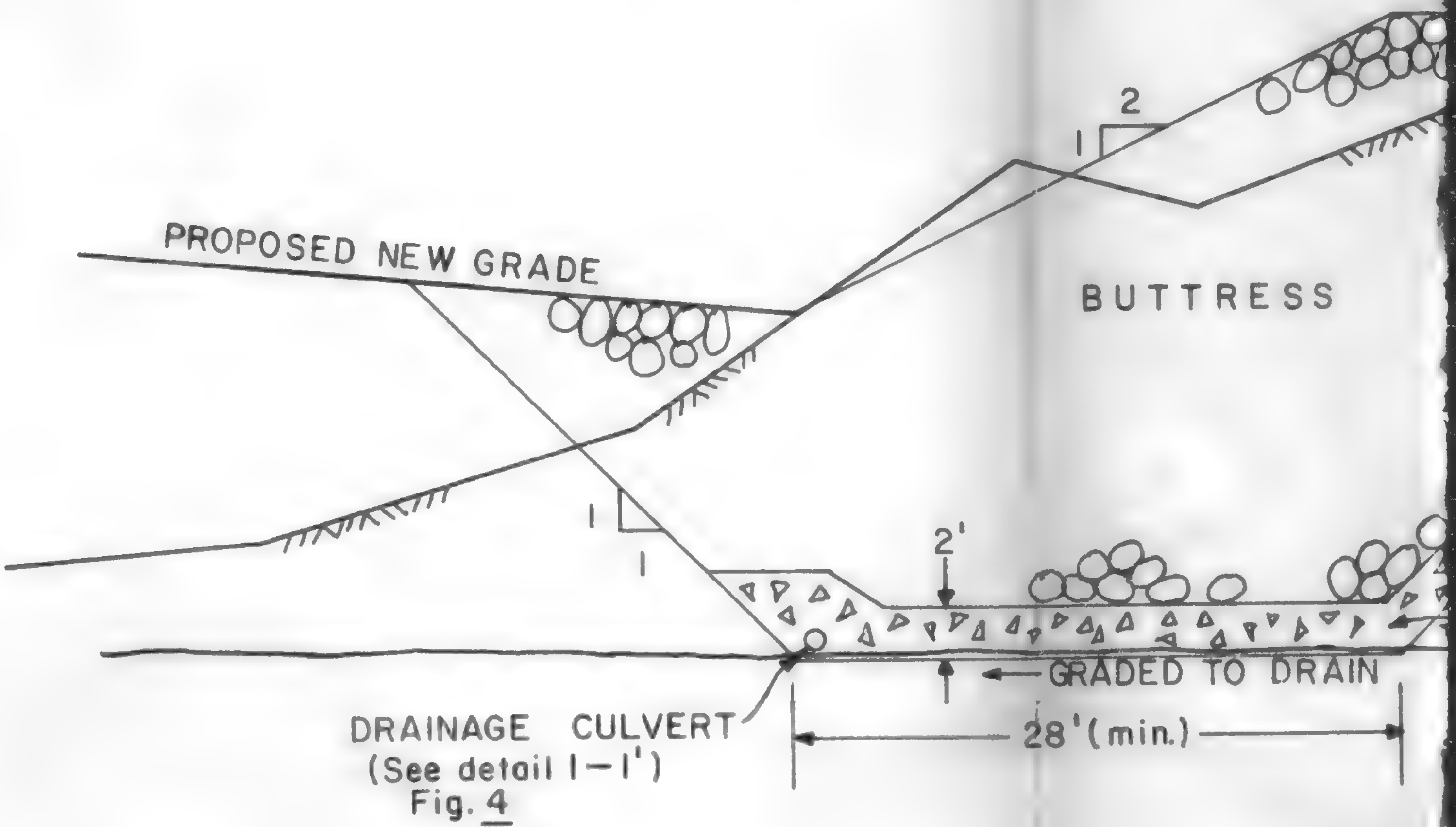
BUTTRESS SECTION
M—M'

0-406

JUNE, 1969

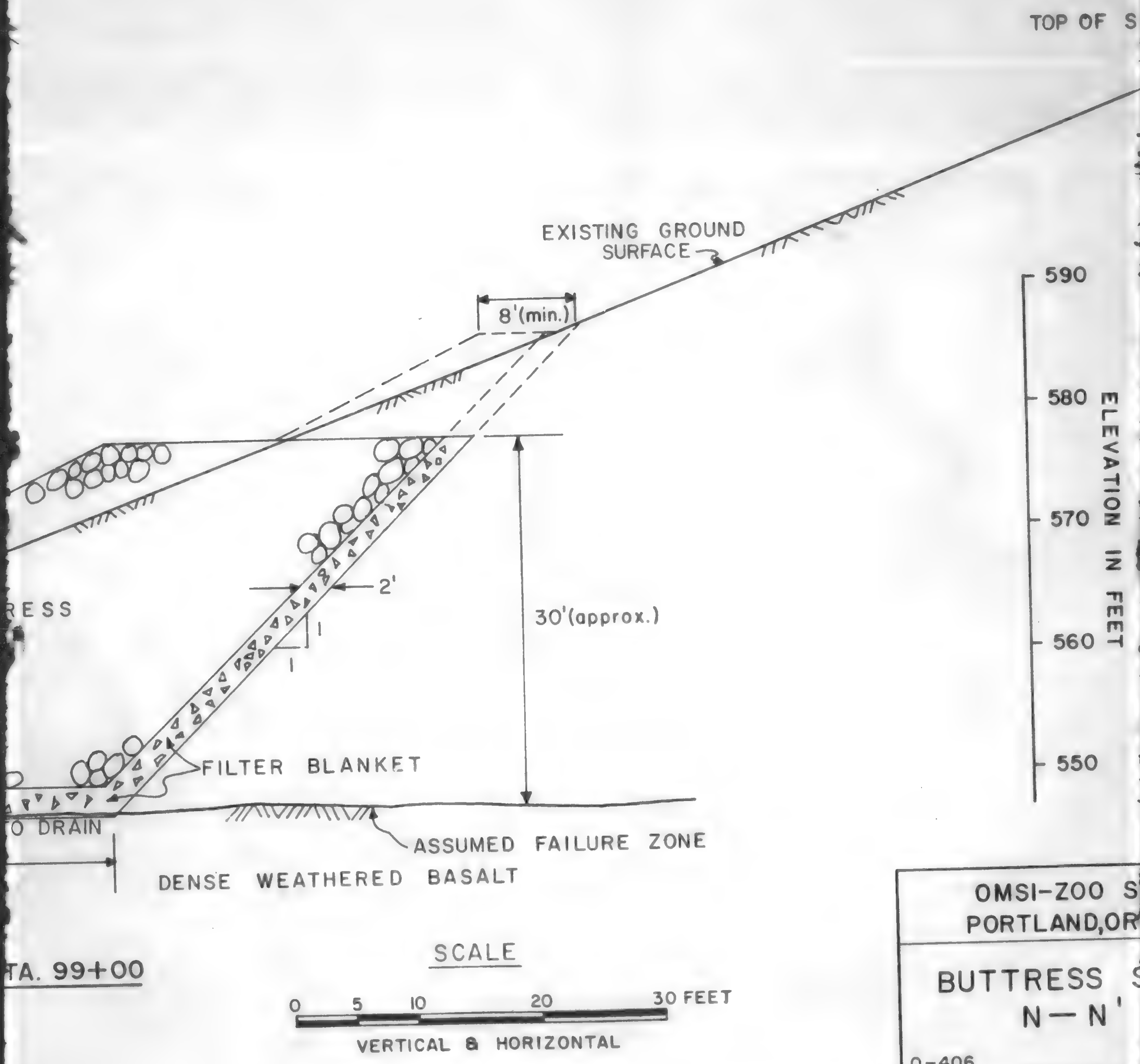
SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 4



2
1
PROPOSED NEW GRADE
BUTTRESS
1
1
2'
GRADED TO DRAIN
DRAINAGE CULVERT
(See detail 1-1')
Fig. 4
28'(min.)

STA. 99+00

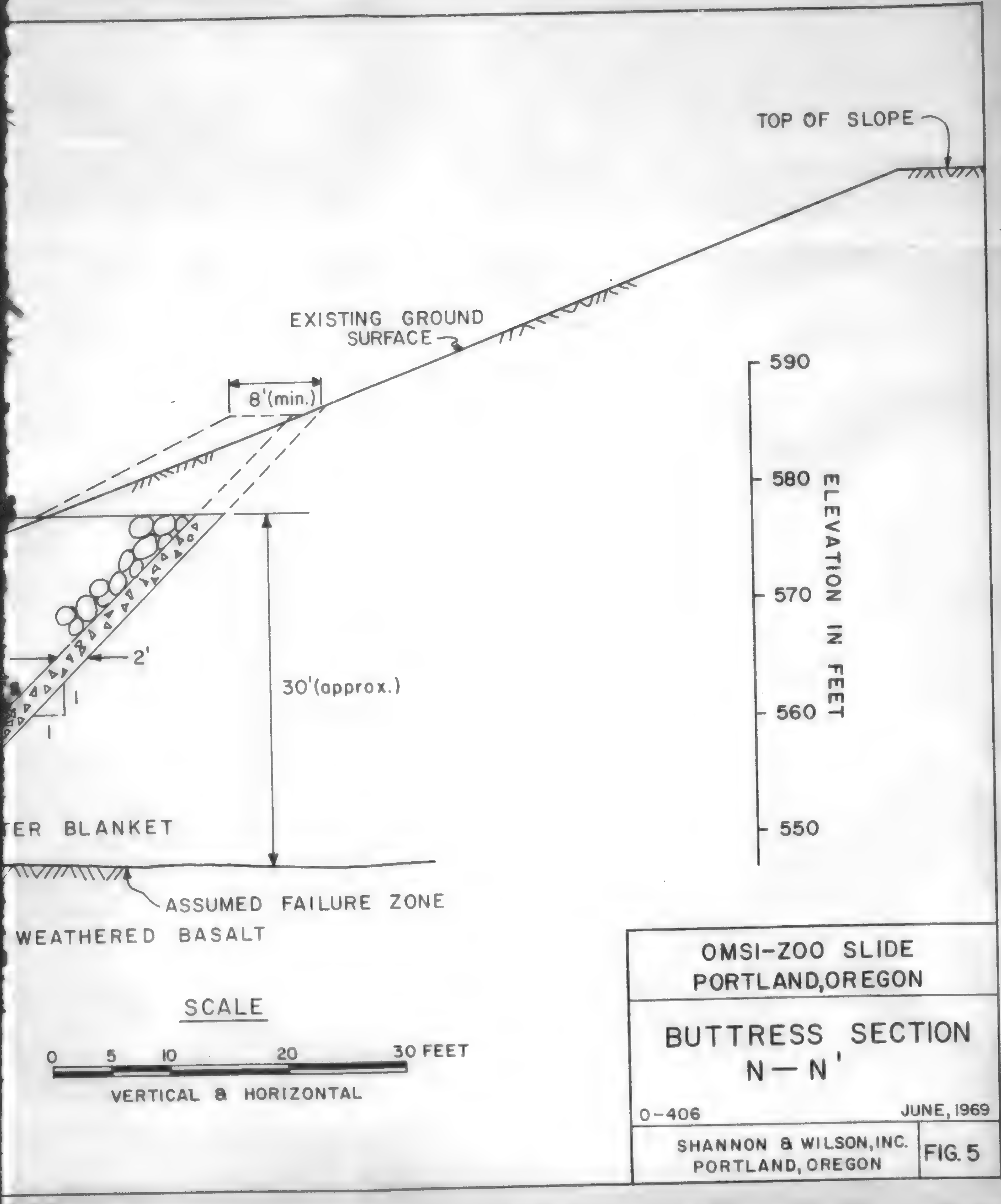

TOP OF S
EXISTING GROUND SURFACE
8'(min.)
590
580
570
560
550
ELEVATION IN FEET
RESS
2'
1
1
30'(approx.)
FILTER BLANKET
O DRAIN
ASSUMED FAILURE ZONE
DENSE WEATHERED BASALT
TA. 99+00
SCALE
0
5
10
20
30 FEET
VERTICAL & HORIZONTAL

OMSI-ZOO S
PORTLAND,OR

BUTTRESS S
N—N'

0-406

SHANNON & WILSO
PORTLAND, OREG


TOP OF SLOPE
EXISTING GROUND SURFACE
8'(min.)
2'
1
1
30'(approx.)
TER BLANKET
ASSUMED FAILURE ZONE
WEATHERED BASALT
590
580
570
560
550
ELEVATION IN FEET
SCALE
0
5
10
20
30 FEET
VERTICAL & HORIZONTAL

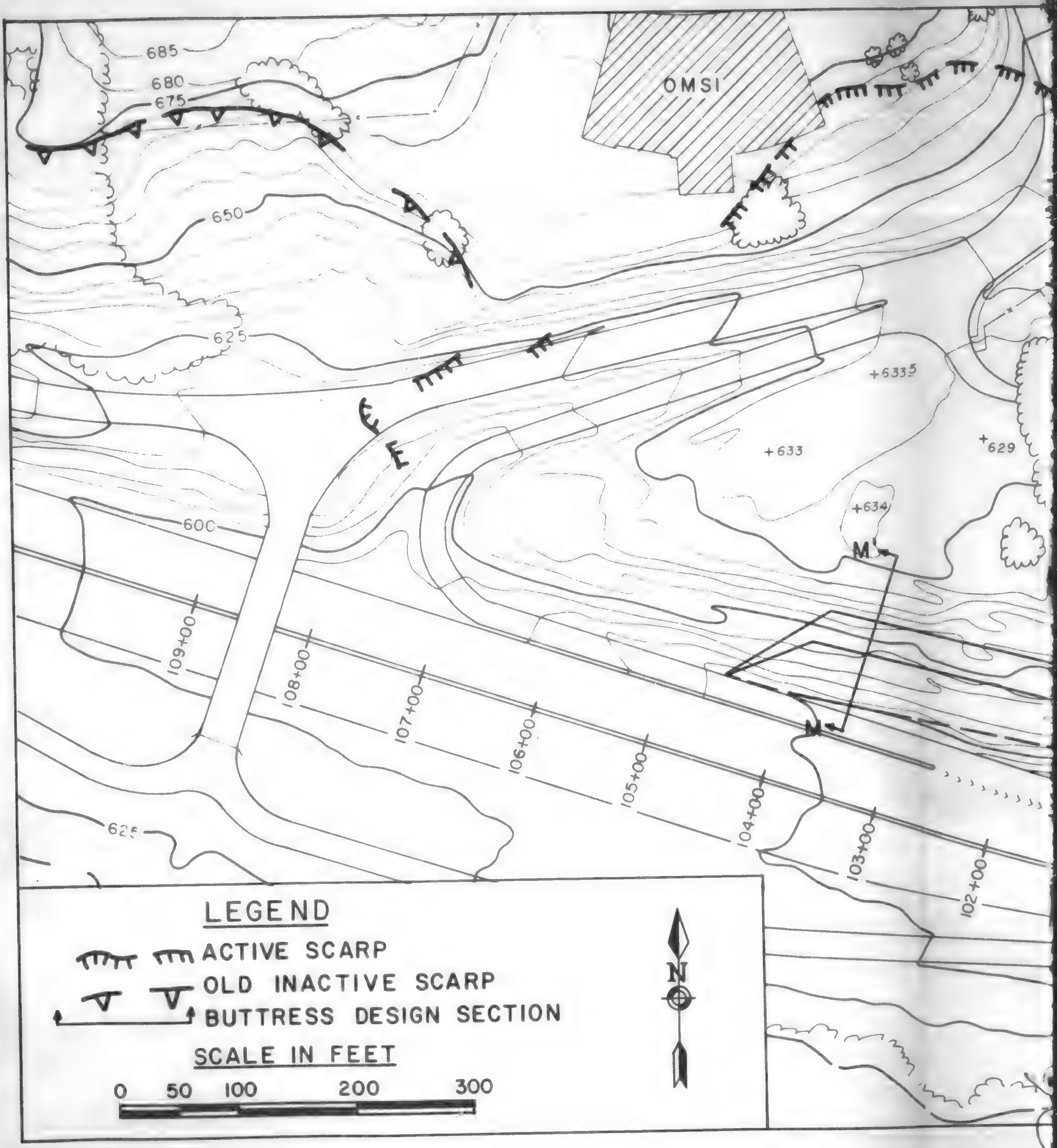
OMSI-ZOO SLIDE
PORTLAND, OREGON

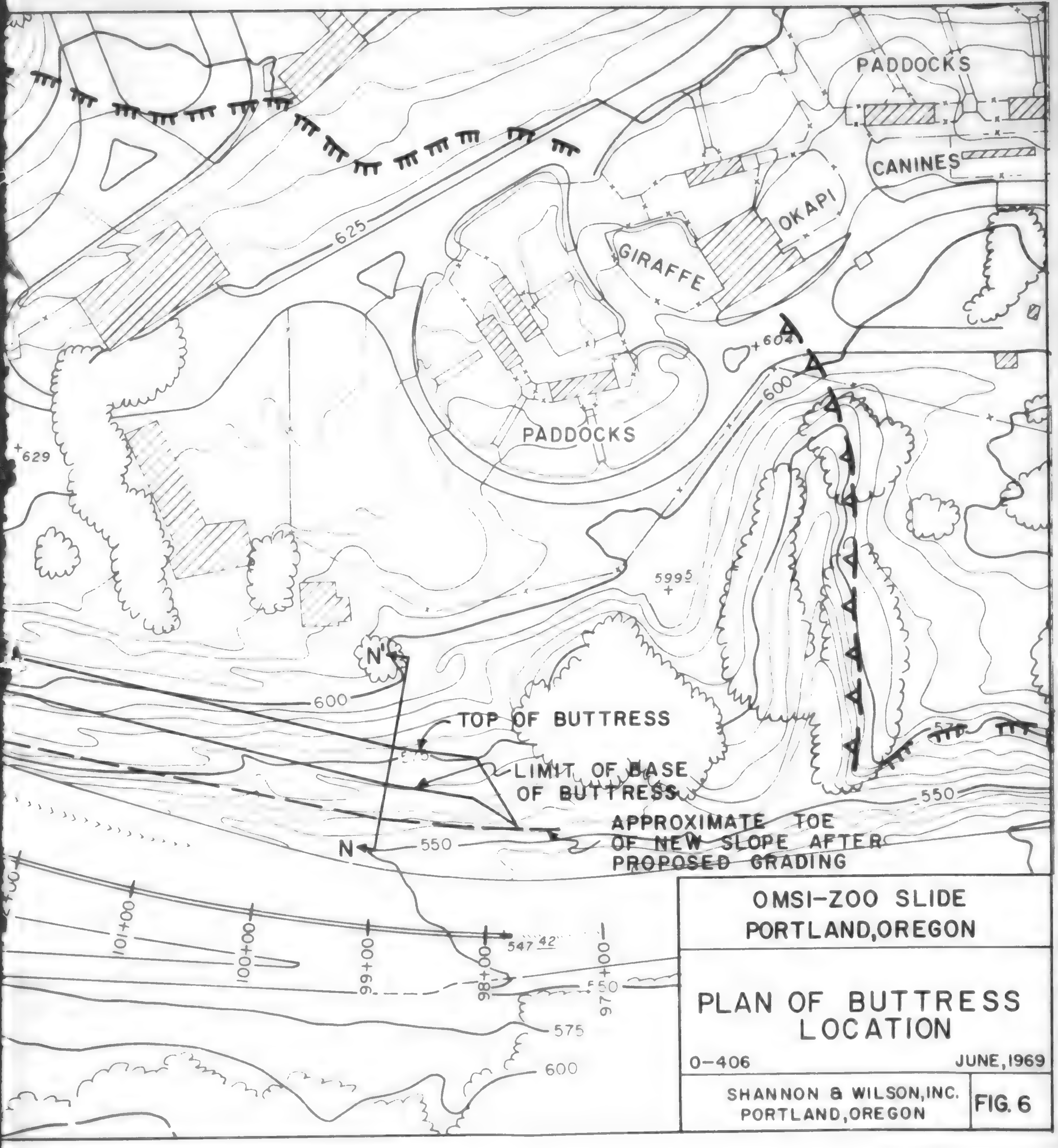
BUTTRESS SECTION
N — N'

0-406 JUNE, 1969

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 5


685
680
675
650
625
600
625
OMSI
+633.5
+633
+629
+634
M'
M
109+00
108+00
107+00
106+00
105+00
104+00
103+00
102+00
LEGEND
ACTIVE SCARP
OLD INACTIVE SCARP
BUTTRESS DESIGN SECTION
SCALE IN FEET
0
50
100
200
300
N


PADDOCKS
CANINES
OKAPI
GIRAFFE
625
+604
600
PADDOCKS
+629
599.5
N'
600
TOP OF BUTTRESS
575
LIMIT OF BASE OF BUTTRESS
550
APPROXIMATE TOE OF NEW SLOPE AFTER PROPOSED GRADING
N
550
101+00
100+00
99+00
98+00
97+00
547.42
550
575
600

OMSI-ZOO SLIDE
PORTLAND, OREGON

PLAN OF BUTTRESS LOCATION

0-406

JUNE, 1969

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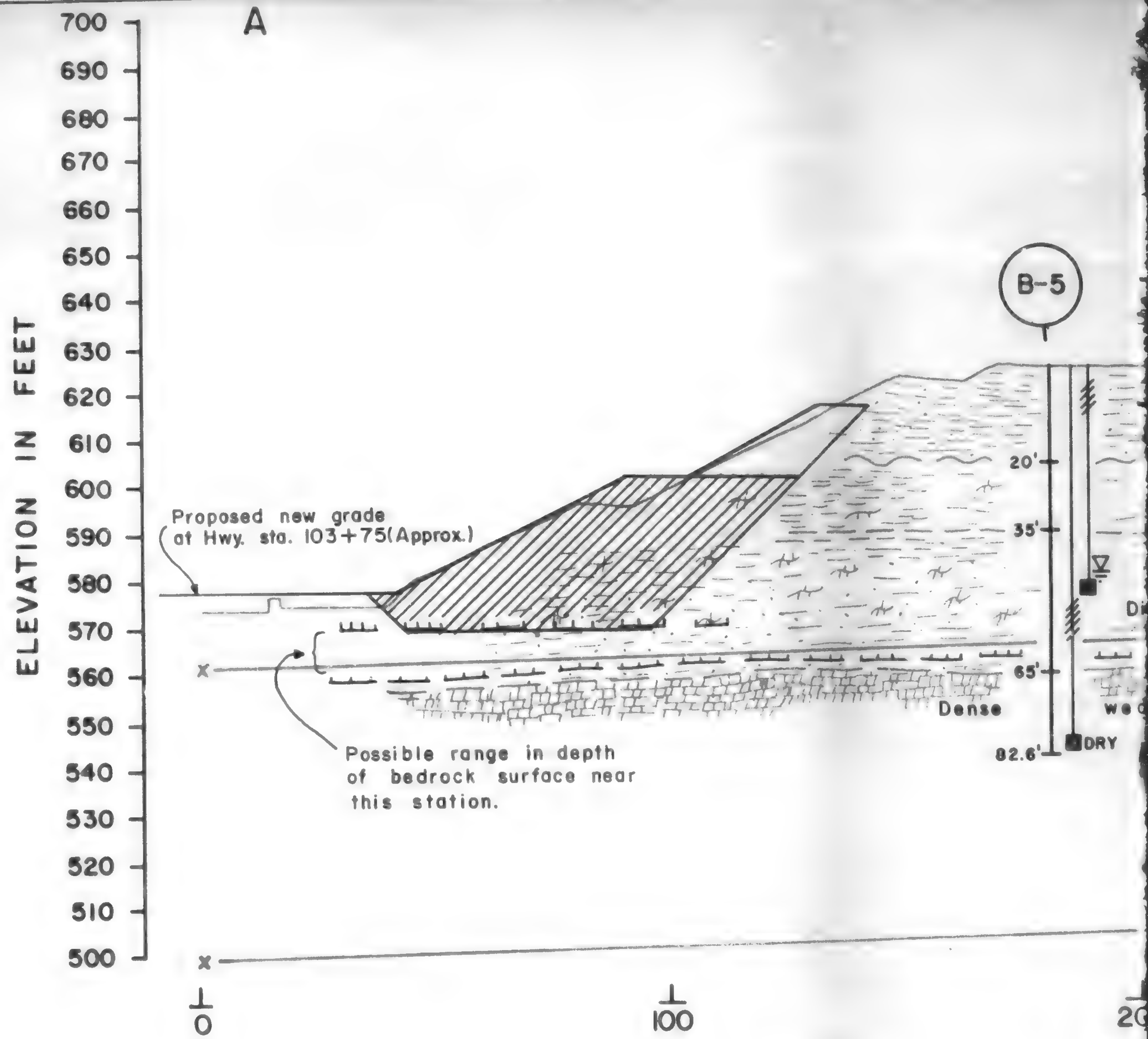
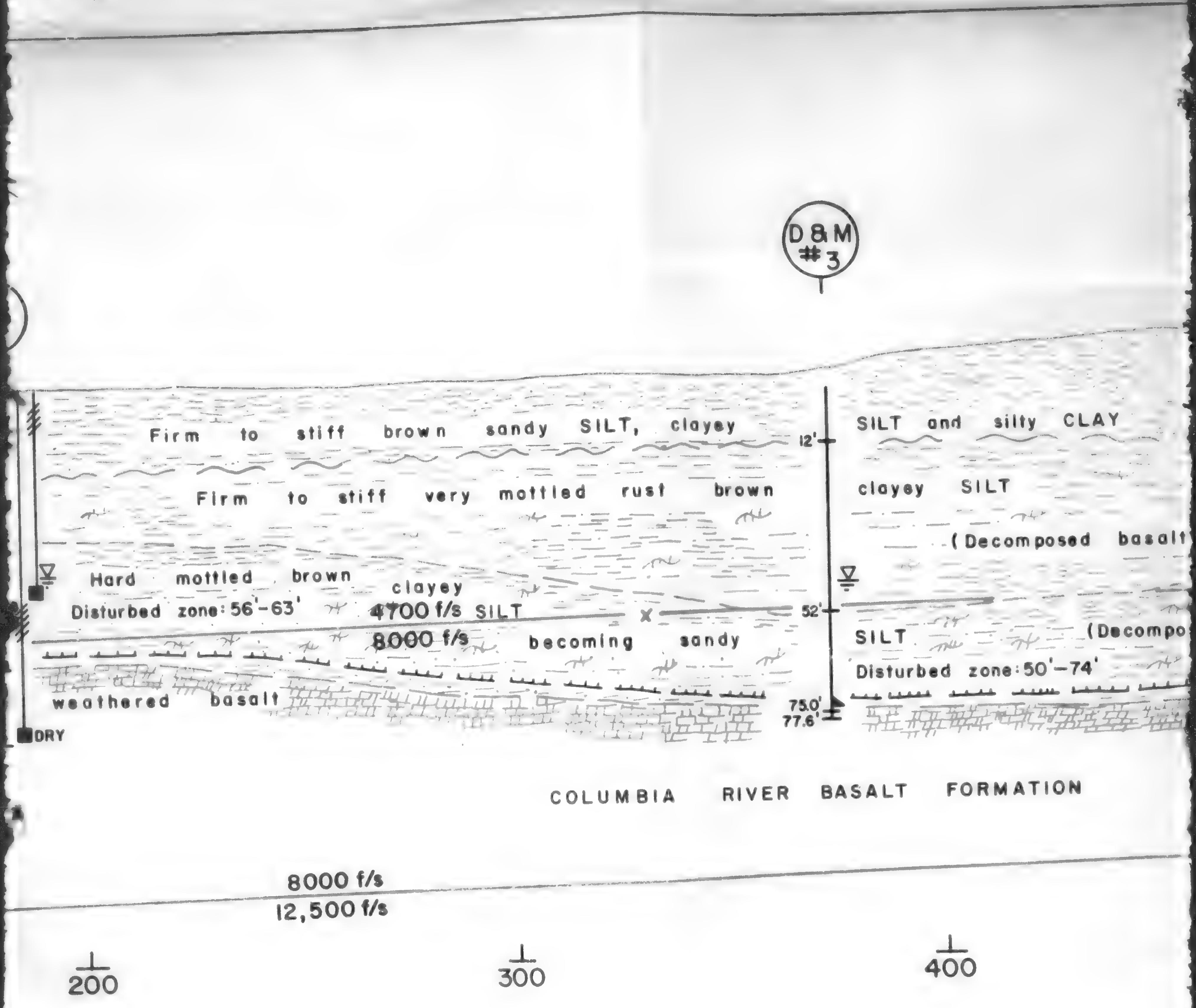
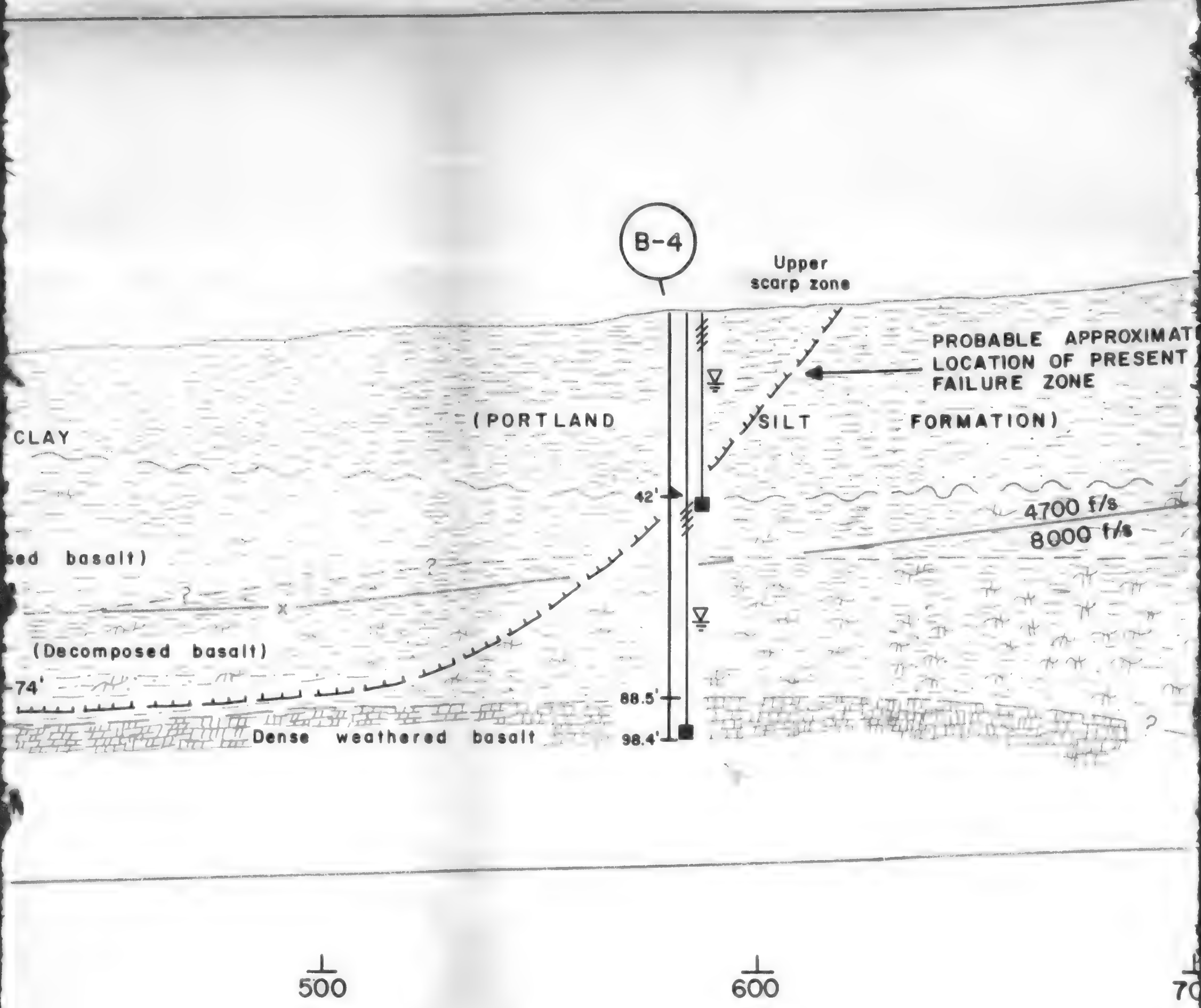
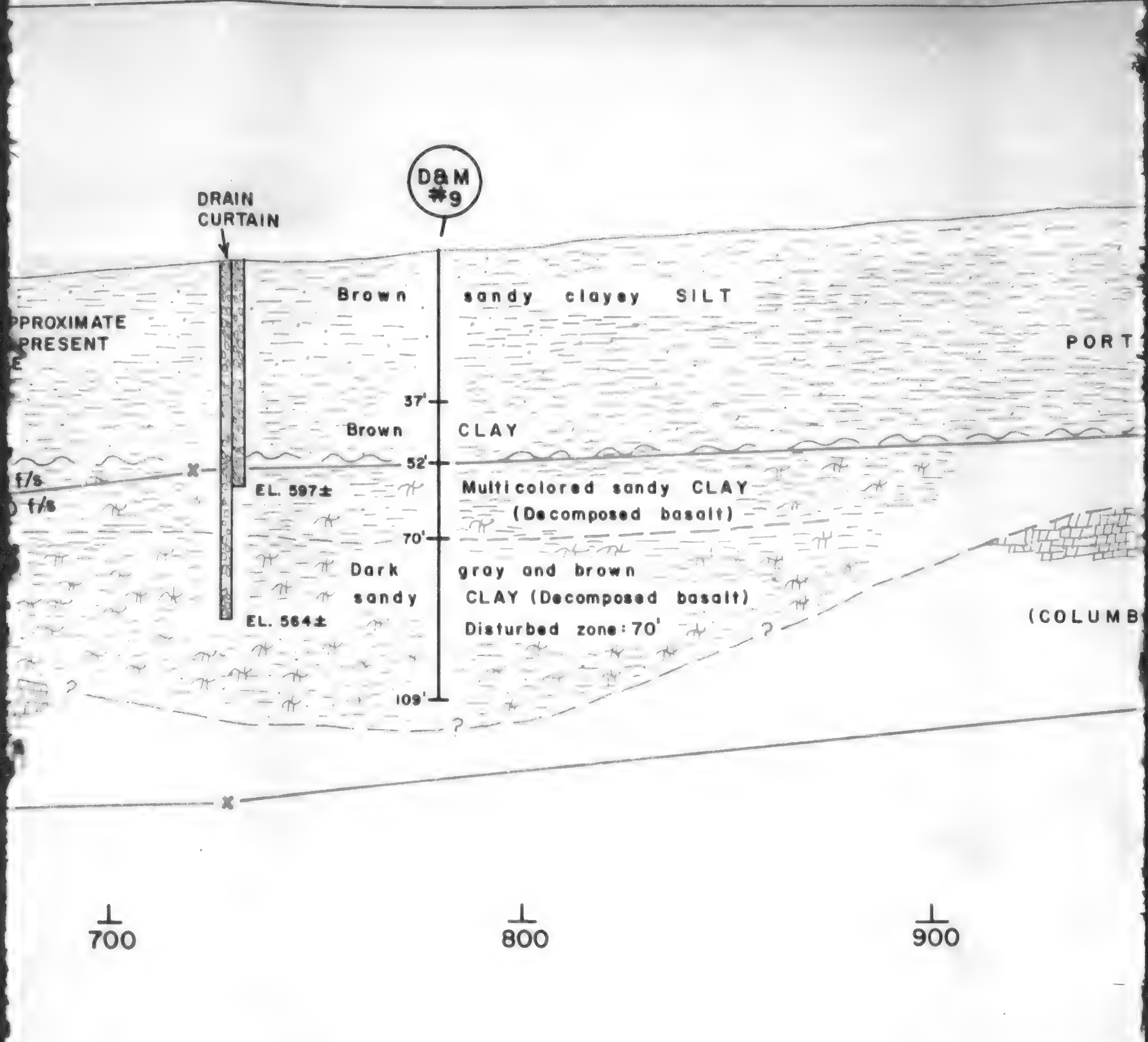
PORTLAND, OREGON

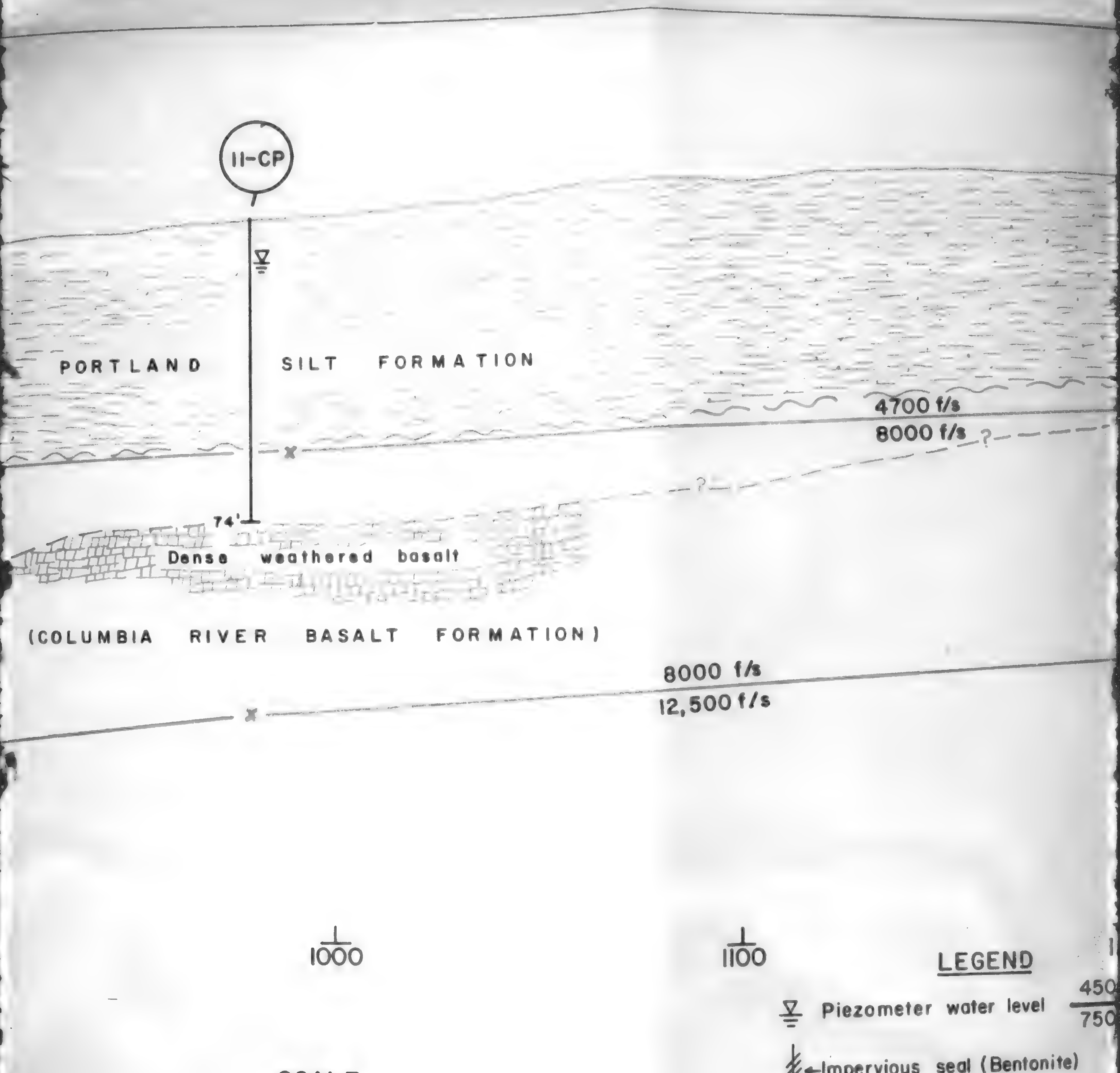
FIG. 6

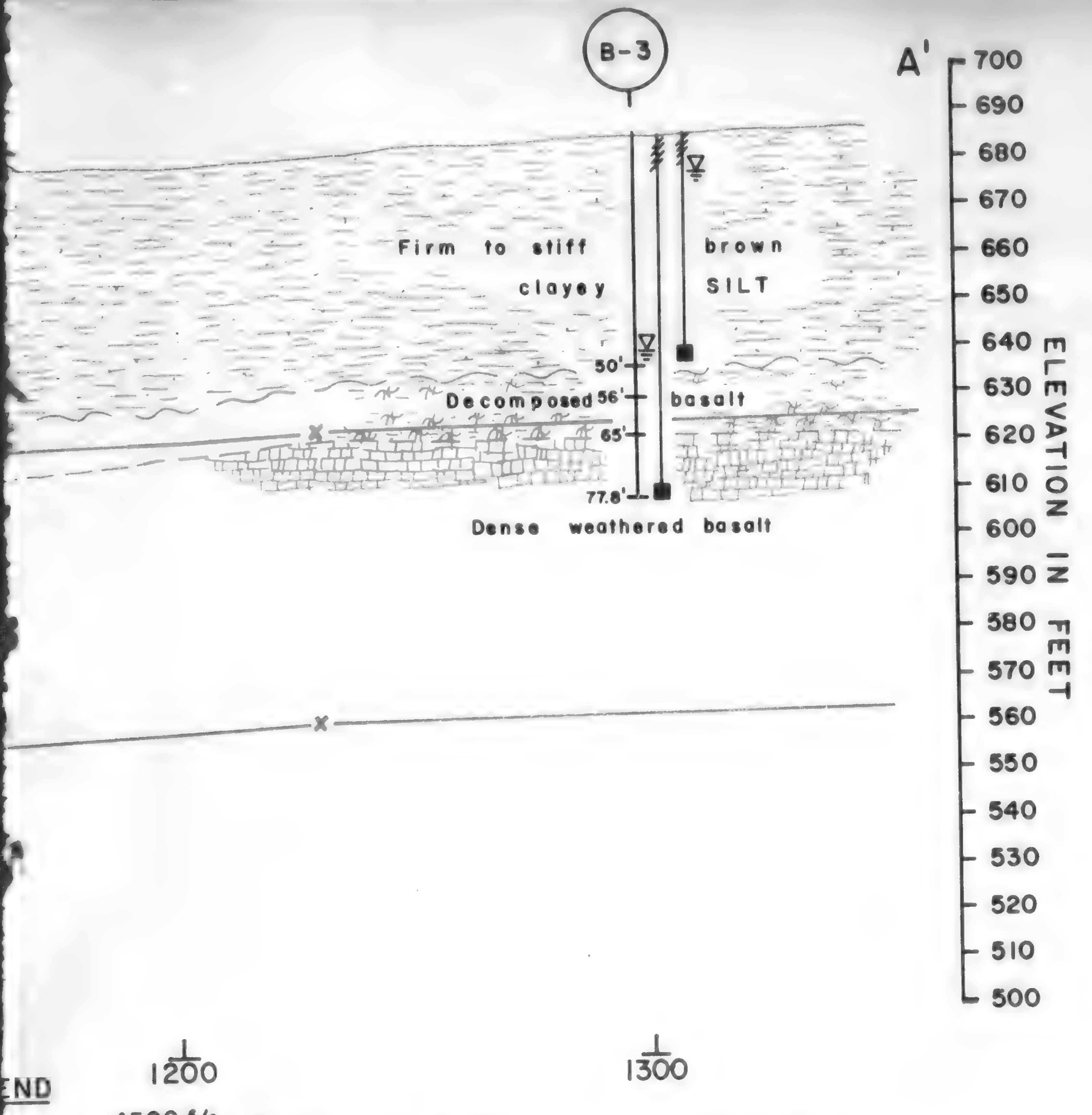

A
ELEVATION IN FEET
B-5
82.6'
DRY
Dense
Proposed new grade
at Hwy. sta. 103+75(Approx.)
Possible range in depth
of bedrock surface near
this station.


D&M #3
Firm to stiff brown sandy SILT, clayey
Firm to stiff very mottled rust brown
Hard mottled brown clayey
Disturbed zone: 56'-63'
4700 f/s SILT
8000 f/s becoming sandy
weathered basalt
DRY
12'
52'
75.0'
77.6'
SILT and silty CLAY
clayey SILT
(Decomposed basalt
SILT
(Decompos
Disturbed zone: 50'-74'
COLUMBIA RIVER BASALT FORMATION
8000 f/s
12,500 f/s
200
300
400


B-4
Upper scarp zone
PROBABLE APPROXIMAT
LOCATION OF PRESENT
FAILURE ZONE
CLAY
(PORTLAND
SILT
FORMATION)
42'
4700 f/s
8000 f/s
sed basalt)
?
?
(Decomposed basalt)
-74'
88.5'
98.4'
Dense weathered basalt
?
500
600
70


DRAIN CURTAIN
D&M #9
Brown sandy clayey SILT
PPROXIMATE
PRESENT
E
PORT
37'
Brown CLAY
52'
f/s
f/s
EL. 597±
Multicolored sandy CLAY (Decomposed basalt)
70'
Dark gray and brown sandy CLAY (Decomposed basalt)
EL. 564±
Disturbed zone: 70'
(COLUMB
109'
?
?
?
700
800
900
0


11-CP
PORTLAND SILT FORMATION
4700 f/s
8000 f/s
?
74'
Dense weathered basalt
(COLUMBIA RIVER BASALT FORMATION)
8000 f/s
12,500 f/s
1000
1100
SCALE
0 20 40 60 100 Feet
Vertical & Horizontal
LEGEND
Piezometer water level
Impervious seal (Bentonite)
Piezometer (Porous tip)
11CP D&M #3 Borings by others, 1956-1960
Slope indicator failure zo
Zone of failure
B-3
f/s Feet per second
450
750


B-3
A'
Firm to stiff brown clayey SILT
50'
56'
65'
77.8'
Decomposed basalt
Dense weathered basalt
ELEVATION IN FEET
700
690
680
670
660
650
640
630
620
610
600
590
580
570
560
550
540
530
520
510
500
1200
1300

END

level — $\frac{4500 \text{ f/s}}{7500 \text{ f/s}}$ Seismic velocity interface

Bentonite)

us tip)

, 1956-1960

failure zone (1959 Investigation)

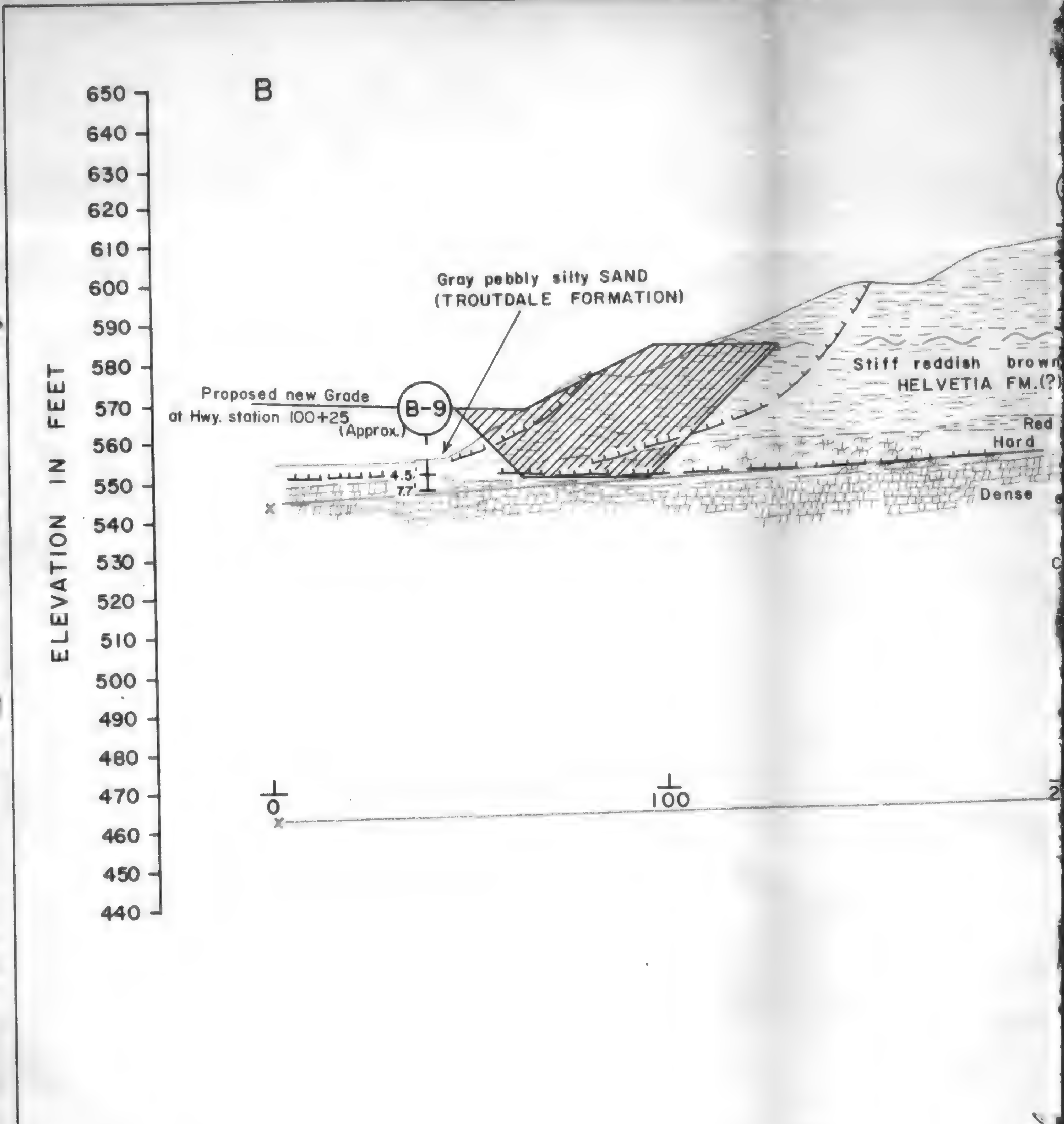
B-3 Borings by SHANNON and WILSON, April, 1969

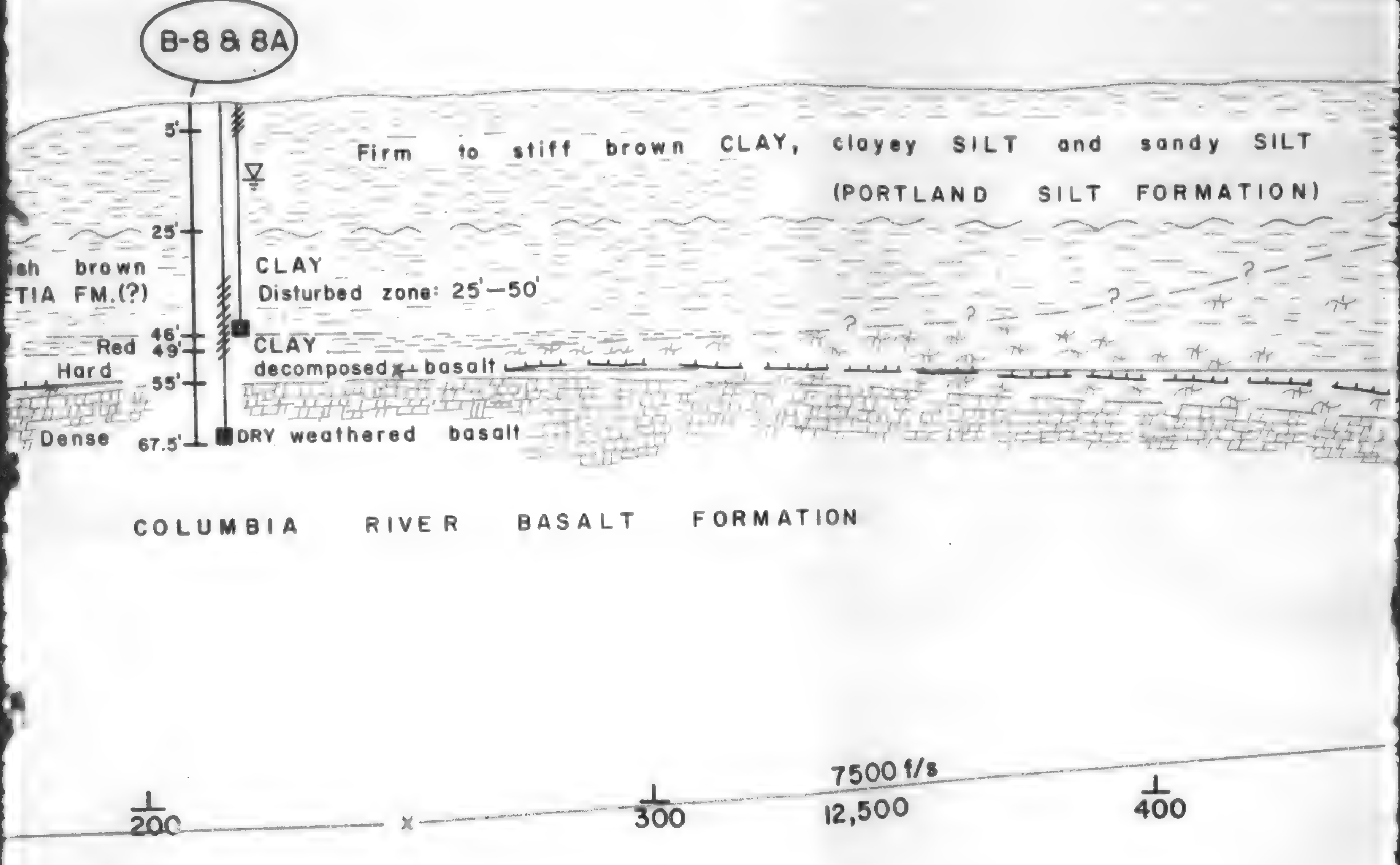
OMSI-ZOO SLIDE
PORTLAND, OREGON

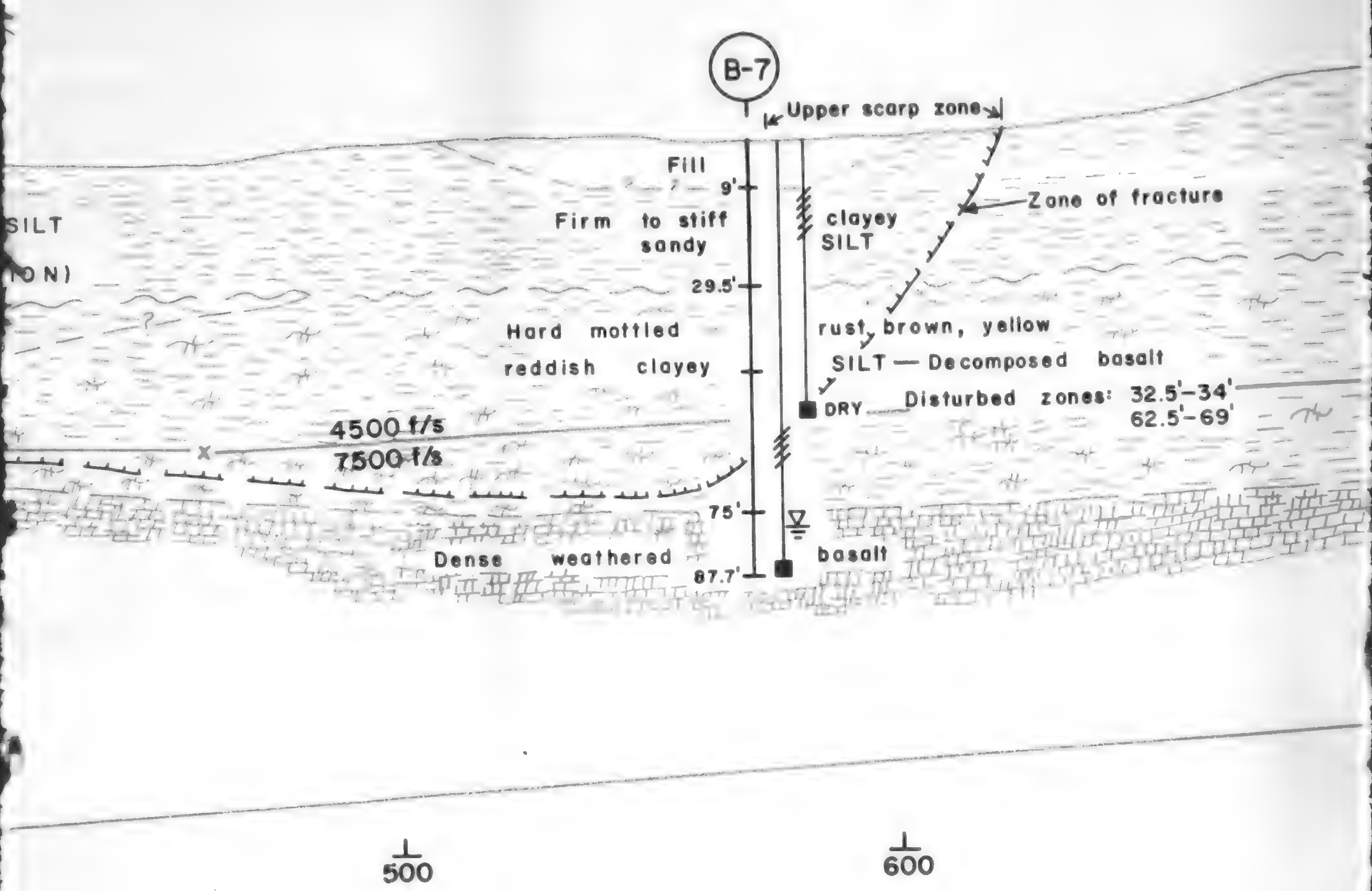
GEOLOGIC CROSS-SECTION
A-A'

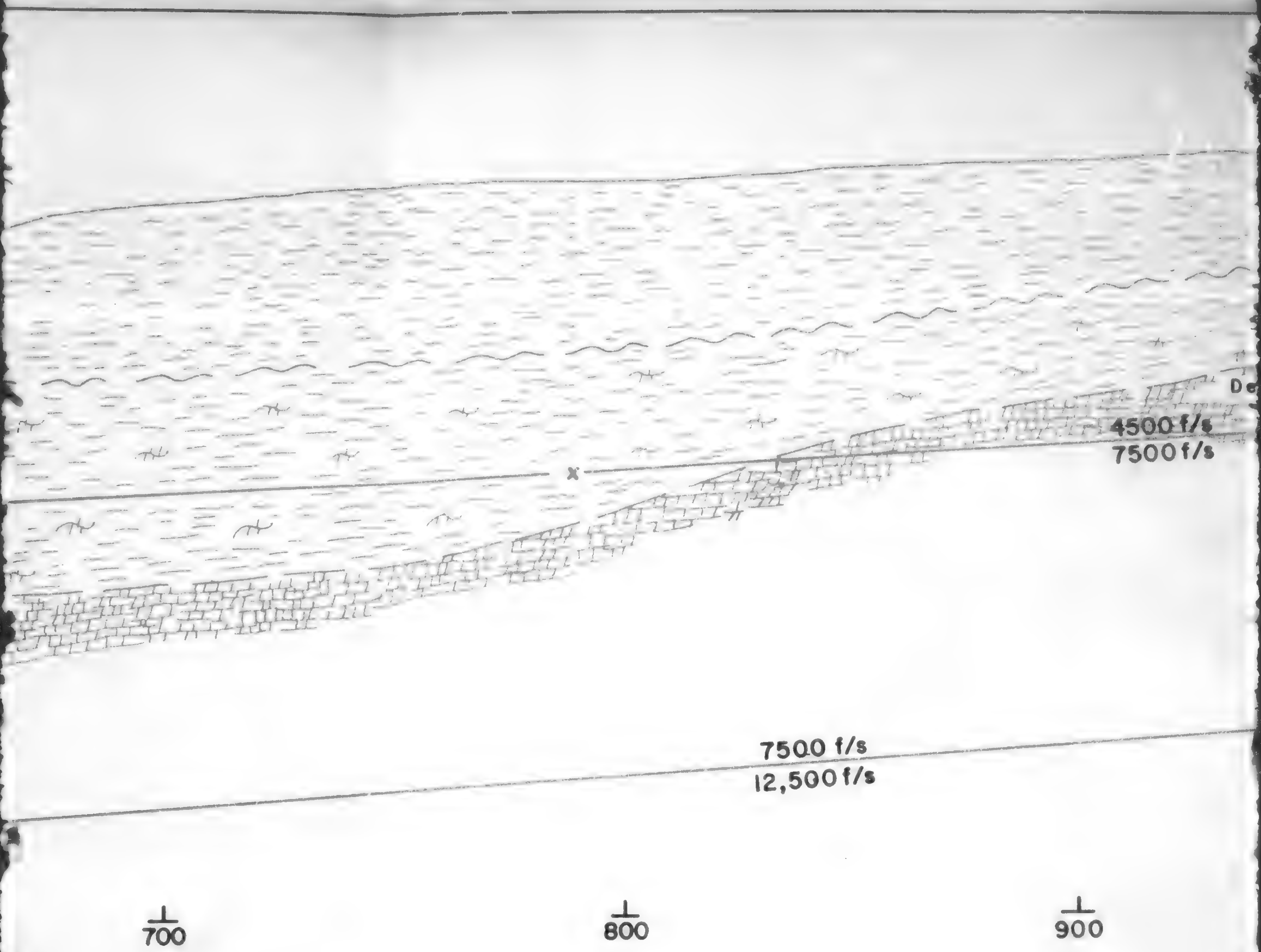
SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 7


B
ELEVATION IN FEET
Gray pebbly silty SAND
(TROUTDALE FORMATION)
Proposed new Grade
at Hwy. station 100+25
(Approx.)
B-9
4.5'
7.7'
Stiff reddish brown
HELVETIA FM.(?)
Red
Hard
Dense


B-8 & 8A
5'
25'
46'
49'
55'
67.5'
Firm to stiff brown CLAY, clayey SILT and sandy SILT
(PORTLAND SILT FORMATION)
ish brown
ETIA FM.(?)
CLAY
Disturbed zone: 25'—50'
Red
CLAY
Hard
decomposed basalt
Dense
DRY weathered basalt
?
COLUMBIA RIVER BASALT FORMATION
7500 f/s
12,500
200
x
300
400


B-7
Upper scarp zone
Fill
9'
Firm to stiff sandy clayey SILT
Zone of fracture
SILT
ION)
29.5'
Hard mottled reddish clayey
rust brown, yellow SILT — Decomposed basalt
DRY
Disturbed zones: 32.5'–34' 62.5'–69'
4500 f/s
7500 f/s
75'
Dense weathered basalt
87.7'
500
600


De
4500 f/s
7500 f/s
7500 f/s
12,500 f/s
700
800
900

LEGEND

▽ Piezometer water level

←Impervious seal (Bentonite)

■←Piezometer (Porous tip)

4500 f/s
7500 f/s

Seismic velocity interface

11CP D&M #3 Borings by others, 1956–1960

Slope indicator failure zone (1959 Investigation)

Zone of failure

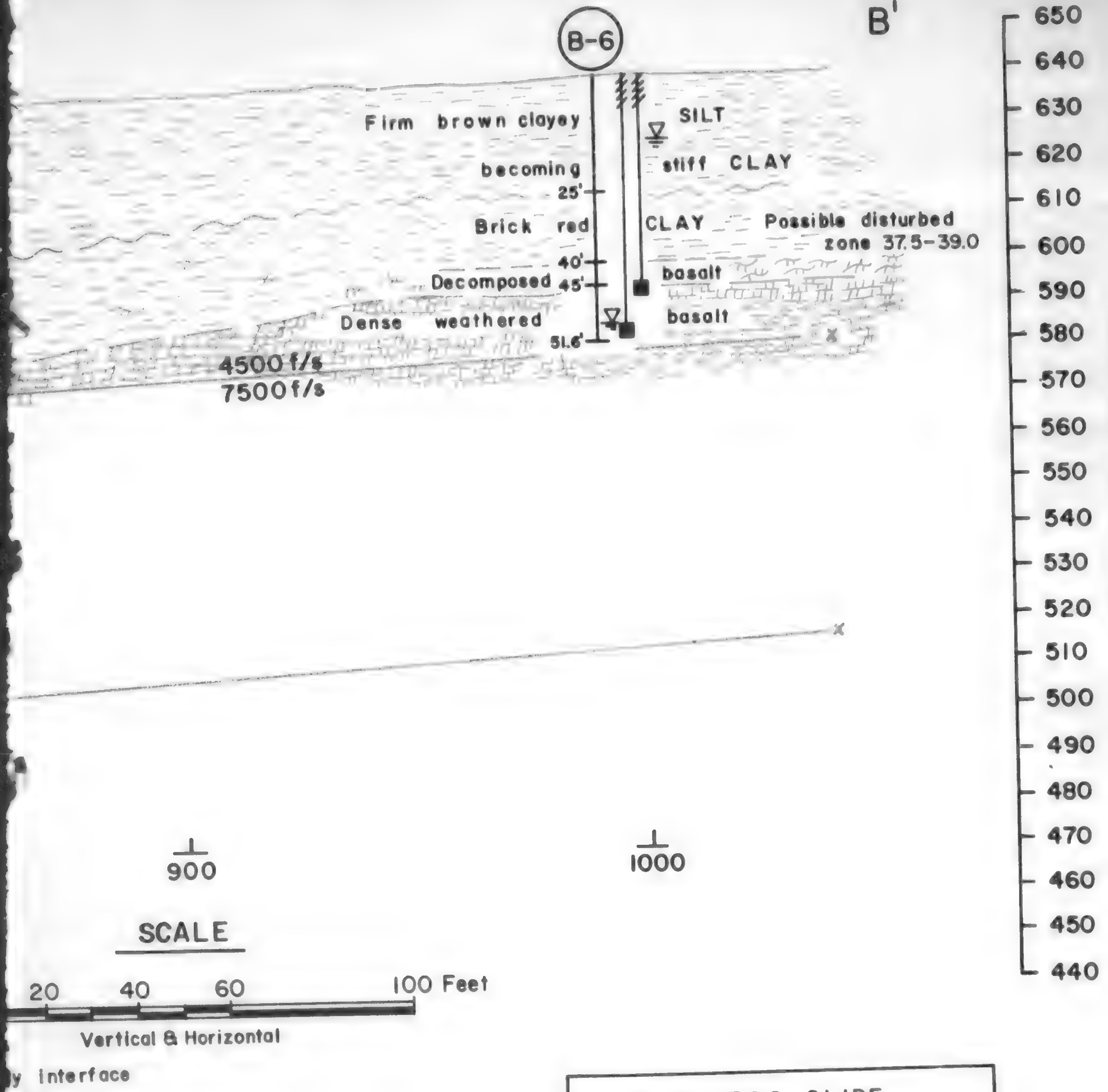
f/s Feet per second

B-3 Borings by SHANNON and WILSON, April, 1969

SCALE

0 20 40 60

Vertical & Horizontal

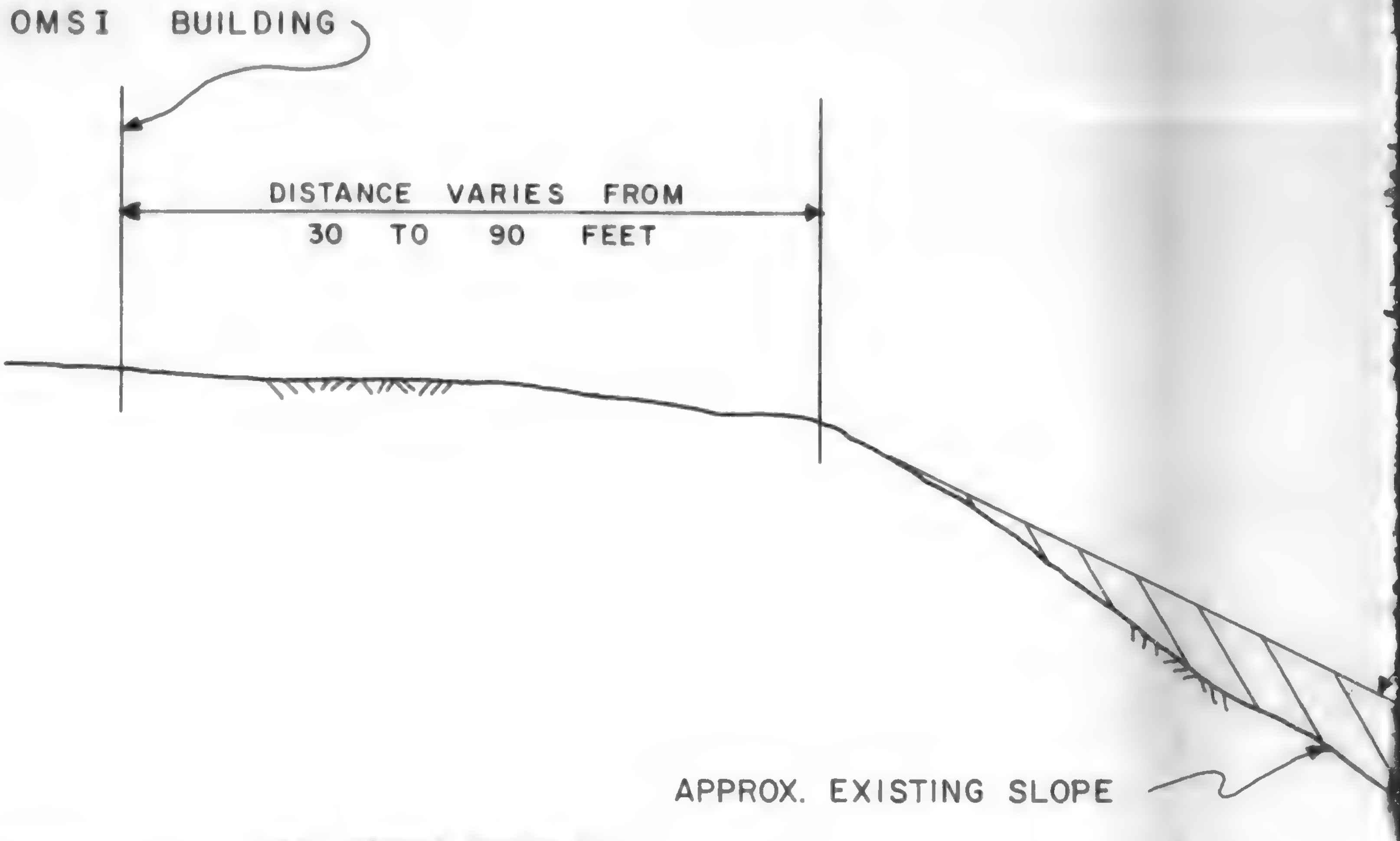

B'
B-6
Firm brown clayey SILT
becoming stiff CLAY
25'
Brick red CLAY
Possible disturbed zone 37.5-39.0
40'
45'
Decomposed basalt
Dense weathered basalt
51.6'
4500 f/s
7500 f/s
650
640
630
620
610
600
590
580
570
560
550
540
530
520
510
500
490
480
470
460
450
440
ELEVATION IN FEET
900
1000
SCALE
20
40
60
100 Feet
Vertical & Horizontal
y interface

OMSI–ZOO SLIDE
PORTLAND, OREGON

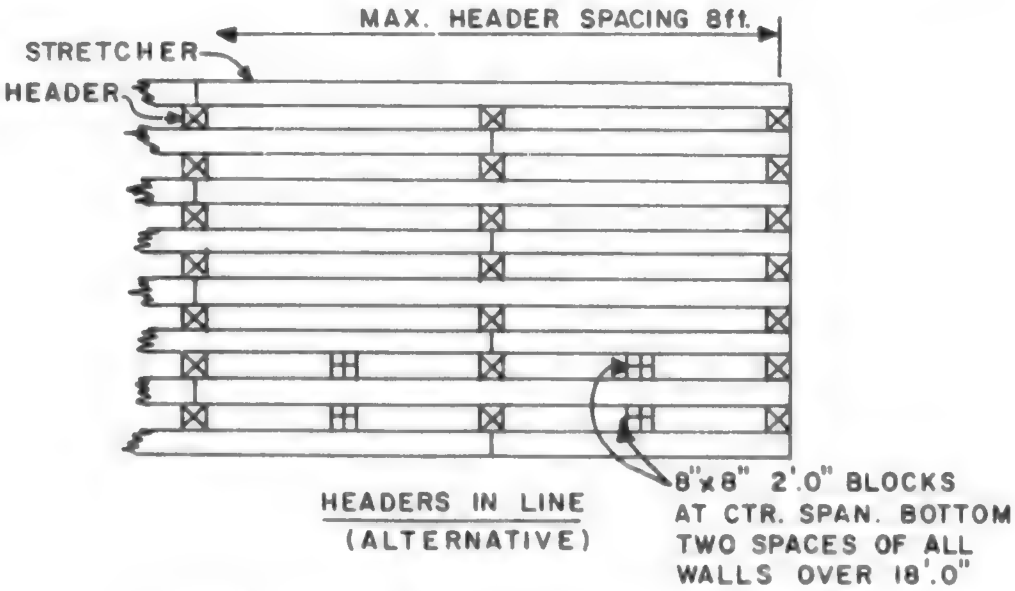
GEOLOGIC CROSS-SECTION
B – B'

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 8

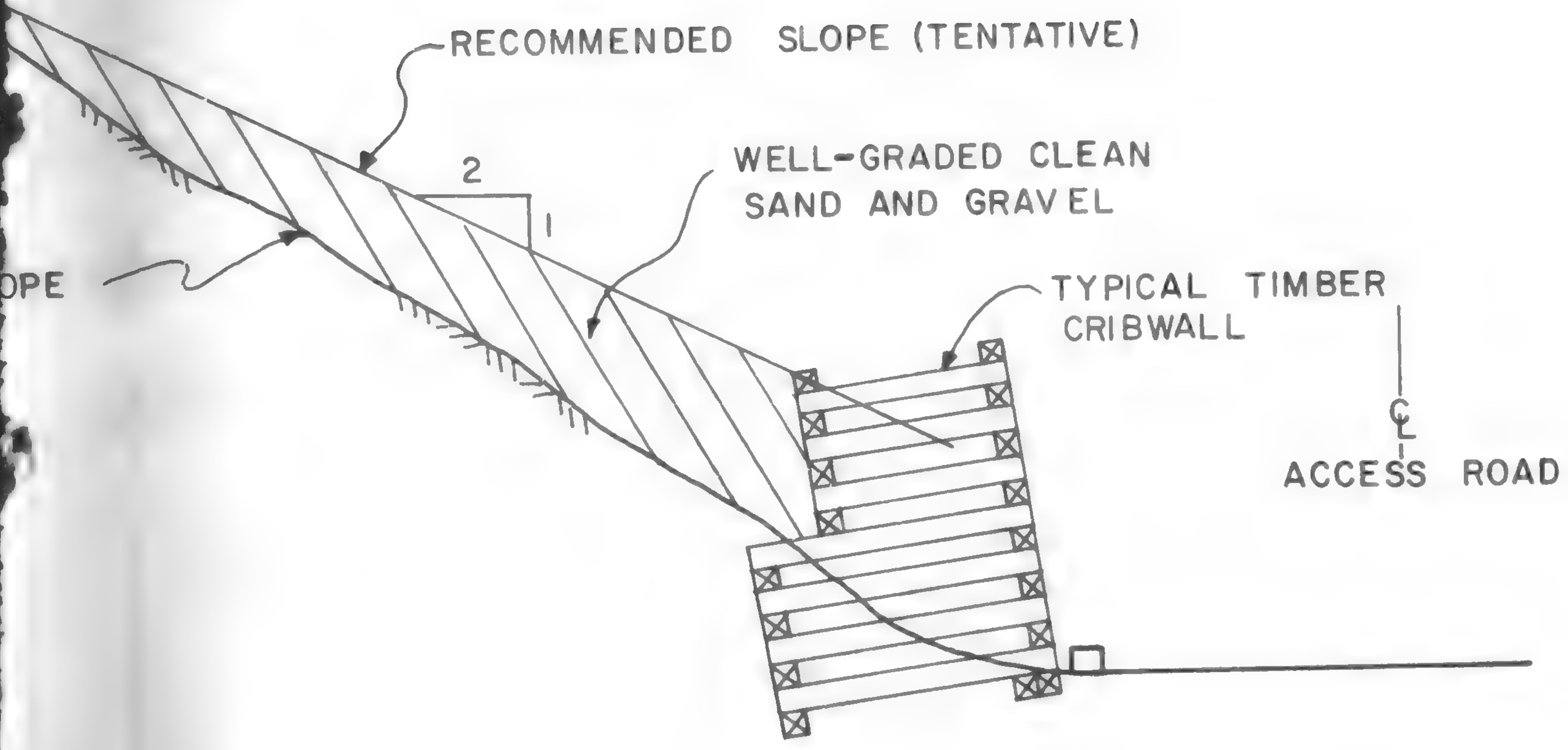

OMSI BUILDING
DISTANCE VARIES FROM 30 TO 90 FEET
APPROX. EXISTING SLOPE

CROSS-SECTION 1-1

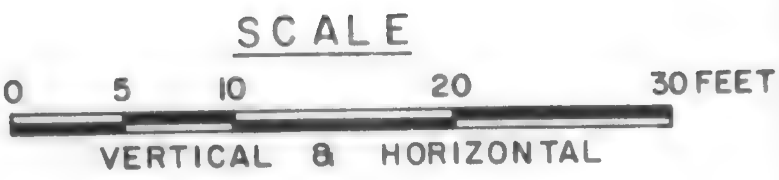

MAX. HEADER SPACING 8ft.
STRETCHER
HEADER
HEADERS IN LINE
(ALTERNATIVE)
8"x8" 2'.0" BLOCKS
AT CTR. SPAN. BOTTOM
TWO SPACES OF ALL
WALLS OVER 18'.0"

TYPICAL ELEVATION VIEW

NOTE: THE EXACT CONFIGURATION, I.E. HEIGHT AND LOCATION, AND OTHER DESIGN DETAILS OF THE CRIB WALL REQUIRE ADDITIONAL ENGINEERING STUDY


RECOMMENDED SLOPE (TENTATIVE)
2
1
WELL-GRADED CLEAN SAND AND GRAVEL
OPE
TYPICAL TIMBER CRIBWALL
℄
ACCESS ROAD

– SECTION I–I


SCALE
0
5
10
20
30 FEET
VERTICAL & HORIZONTAL

I.E.
OTHER
RIB

OMSI–ZOO SLIDE
PORTLAND, OREGON

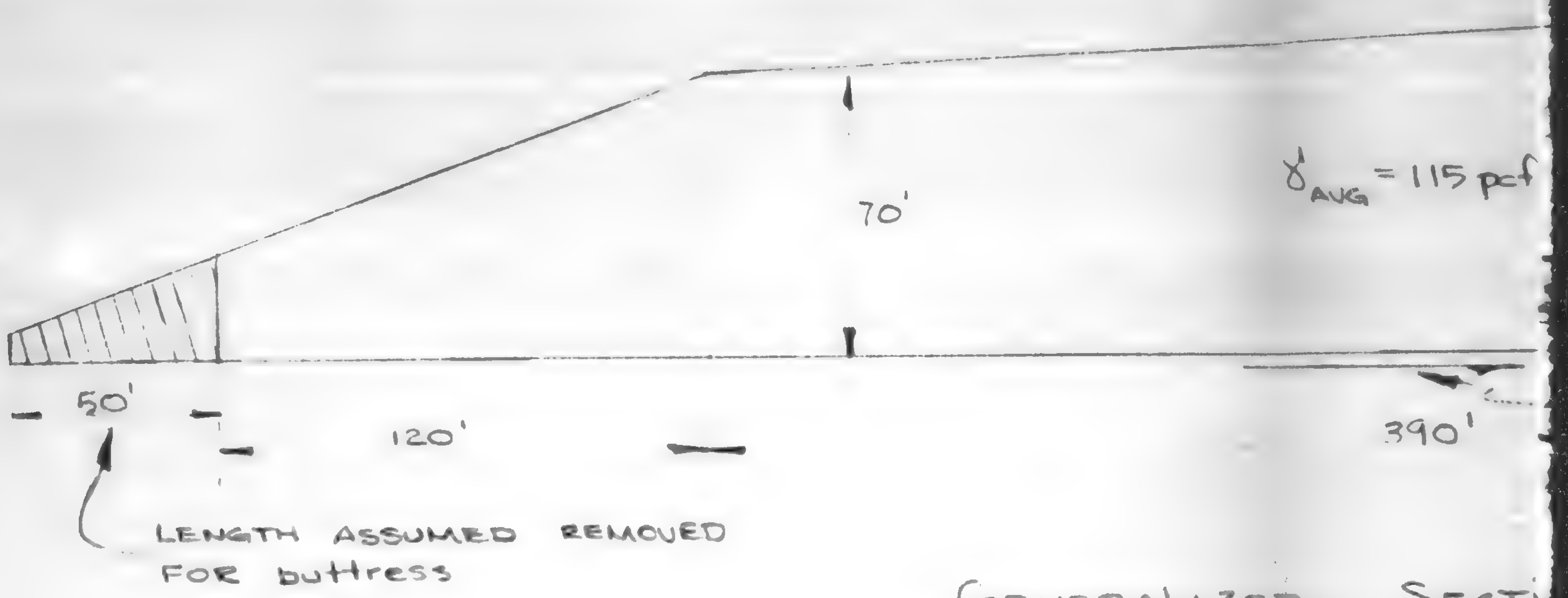
CROSS SECTION I–I
POSSIBLE REMEDIAL WORK BELOW OMSI

O-406
JUNE, 1969

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 9

APPENDIX A


$\gamma'_{AVG} = 115$ pcf
70'
50'
120'
390'
LENGTH ASSUMED REMOVED FOR buttress

GENERALIZED SECTI

RESISTING FORCES

$$\Sigma F_R = \left[H_{1_{AVG}}(L_1) + H_{2_{AVG}}(L_2)\right] \gamma' \text{TAN}\,\phi'_F$$

$$= \left[\left(\frac{27'+70'}{2}\right)(120') + \left(\frac{70+88}{2}\right)(390')\right](115-62.4)\text{ pcf}\,(\text{TAN}\,10^\circ)$$

$$= \left[5{,}800\text{ FT}^2 + 30{,}800\text{ FT}^2\right] 9.28\ \#/\text{FT}^2$$

$$= 340{,}000\ \frac{\#}{\text{FT}} = \underline{340\text{ Kips/FT}}$$

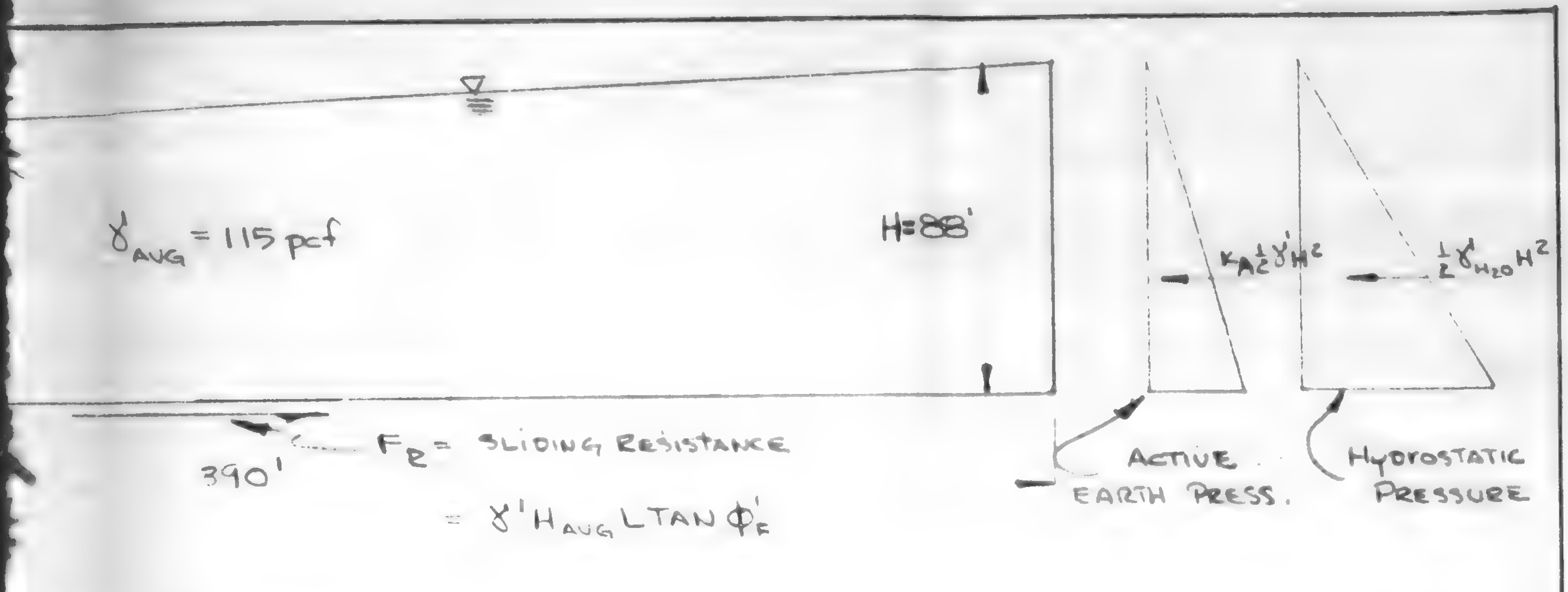
DRIVING FORCES

$$\Sigma F_D = K_A \tfrac{1}{2}\gamma' H^2 + \tfrac{1}{2}\gamma'_{H_2O} H^2 \quad ; K_{A_{\phi'=17^\circ}} = 0.55$$

$$= 0.55(0.5)\left(52.6\frac{\#}{\text{FT}^3}\right)(88')^2 + (0.5)\left(62.4\frac{\#}{\text{FT}^3}\right)(88')^2$$

$$= 112{,}000\frac{\#}{\text{FT}} + 242{,}000\frac{\#}{\text{FT}}$$

$$= 354{,}000\frac{\#}{\text{FT}} = \underline{354\ \frac{\text{Kips}}{\text{FT}}}$$



$\gamma_{AVG} = 115$ pcf
H=88'
$K_A \frac{1}{2}\gamma' H^2$
$\frac{1}{2}\gamma_{H_2O} H^2$
390'
F_R = SLIDING RESISTANCE
$= \gamma' H_{AVG} L \tan \phi'_F$
ACTIVE EARTH PRESS.
HYDROSTATIC PRESSURE

IZED SECTION

2.4) pcf (TAN10°)

/FT²

= 0.55

ϕ':17°

$.4 \frac{\#}{FT^3}(88')^2$

BUTTRESS FORCE REQ'D

FACTOR OF SAFETY, F.S., $= \dfrac{\Sigma F_R + F_{buttress}}{\Sigma F_D}$

$$\therefore F_{buttress} = (F.S.)(\Sigma F_D) - \Sigma F_R$$

$$= (1.25)\left(354 \frac{K}{FT}\right) - 340 \frac{K}{FT}$$

$$= (442 - 340)\ K/FT$$

$$= \underline{\underline{102 \frac{Kips}{FT}}}$$

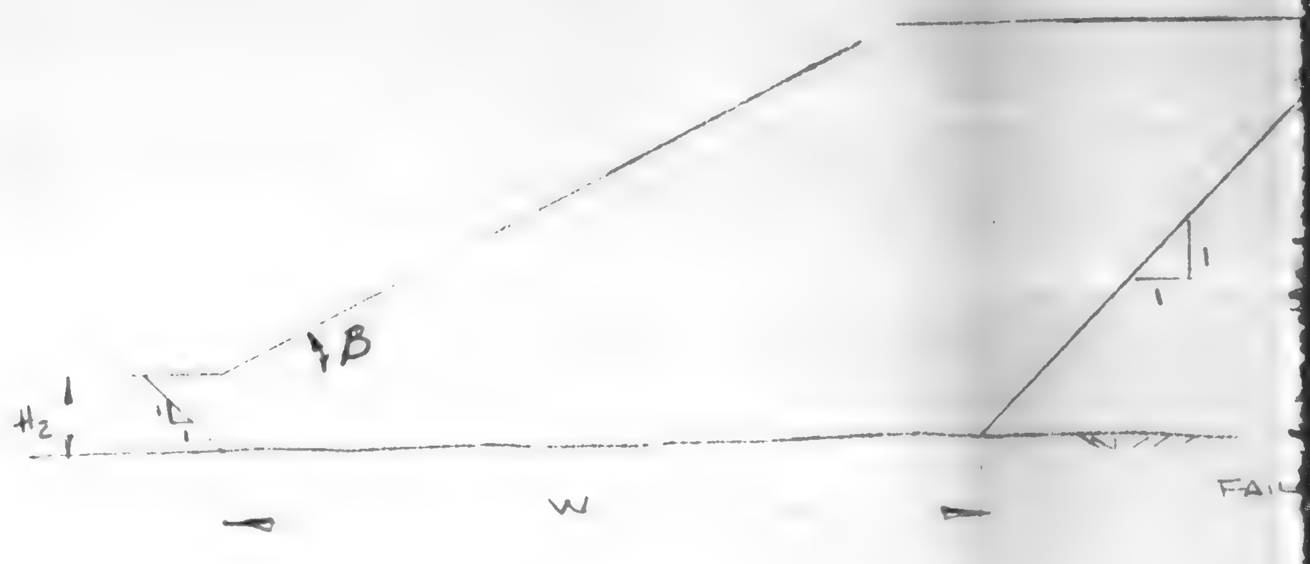
OMSI-ZOO SLIDE
PORTLAND, OREGON

DETERMINATION OF
REQUIRED BUTTRESS FORCE:
F.S. = 1.25

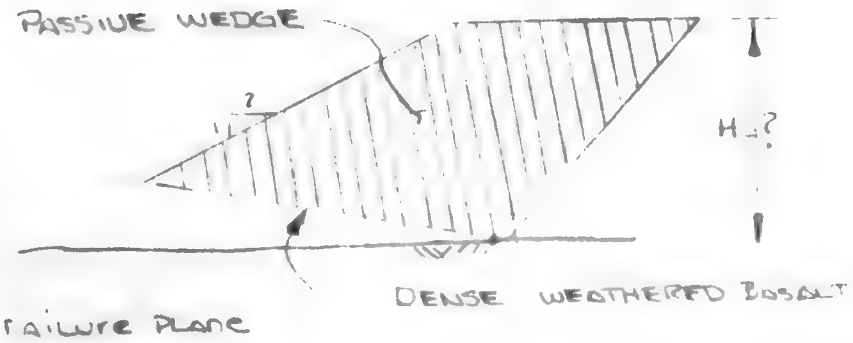
0-406 JUNE, 1969

SHANNON & WILSON, INC.
PORTLAND, OREGON

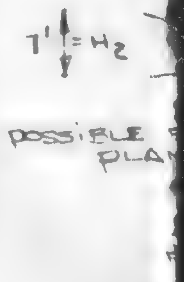
FIG. A-1


B
H2
1
1
1
W
FAIL

BUTTRESS HEIGHT REQ'D for STABILITY


PASSIVE WEDGE
H = ?
2
1
DENSE WEATHERED BASALT
FAILURE PLANE

AT F.S = 1.25 the buttress force req'd, F_B, = 102^K


T' = H2
POSSIBLE
PLAN

$$P_p = F_B = K_p \frac{1}{2} \gamma H^2$$

for $\phi = 40°$ & $\beta = 26.5°$

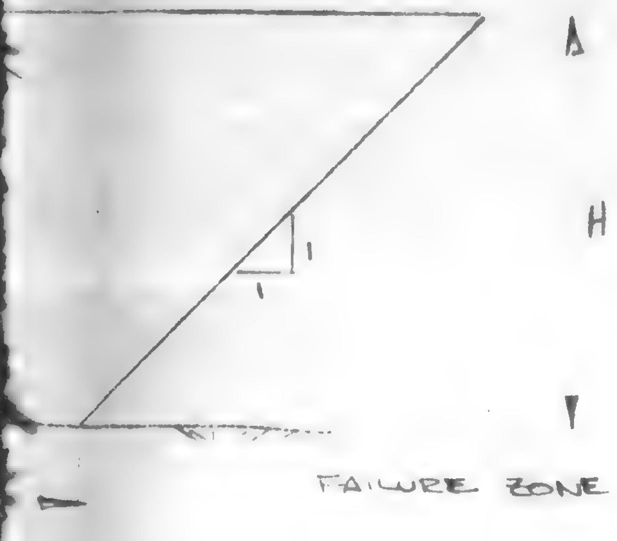
$K_p = 1.71$

$$\therefore H = \left(\frac{F_B}{K_p \frac{1}{2} \gamma} \right)^{1/2}$$

$$= \left[\frac{102 \text{ KIPS/FT}}{(1.71)(0.5)(130 \text{ pcf})} \left(\frac{1000\#}{\text{Kip}} \right) \right]^{1/2}$$

$$= \underline{\underline{30.3'}} \longleftarrow$$

PAGE


H
1
1
FAILURE ZONE

DESIGN ASSUMPTIONS:

ϕ' of buttress MAT'L = 40°

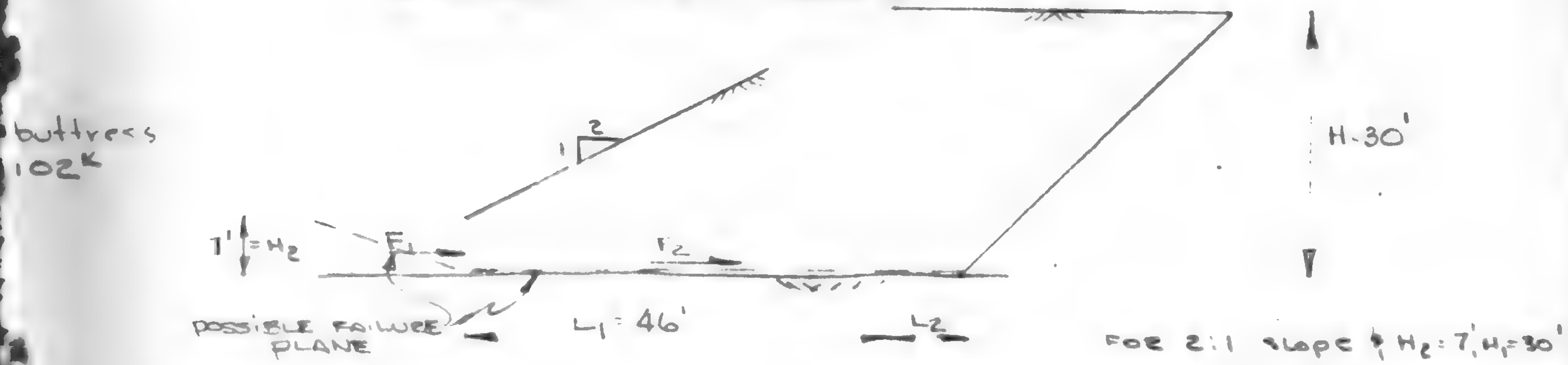
ϕ'_s (ALONG base of buttress) = 35°

β = 26.5° (2H : 1V)

γ' = 130 pcf (unit WT)

H_2 = 7'

BUTTRESS WIDTH REQ'D


buttress
102K
H-30'
1
2
7' = H_2
F_1
F_2
POSSIBLE FAILURE PLANE
L_1 = 46'
L_2

FOR 2:1 slope & H_2 = 7', H_1 = 30'

$L_1 = (30-7)(2) = \underline{46'}$

For STABILITY $\Sigma F = F_1 + F_2 = 102$ Kips/FT

$$F_1 + F_2 = 102\frac{K}{FT} = K_P \tfrac{1}{2}\gamma' H_2^2 + \left(H_{AVG}(L_1) + H_1 L_2\right)\gamma' \tan\phi'_s$$

$$= \frac{3.5\,(115\,pcf)(7')^2}{1000\,\#/kip} + \left[\left(\frac{7+30}{2}\right)(46') + 30'(L_2)\right]\frac{130\,pcf\ \tan 35°}{1000\,\#/kip}$$

$$102\frac{K}{FT} = 10\,K/FT + \left(870\,FT^2 + 30L_2\right)0.091\frac{K}{FT^3}$$

$$2.73L_2 = (102-10-80)\frac{K}{FT}$$

$$L_2 = 4.4$$

BASE WIDTH REQ'D = 46 + 4

= $\underline{50'}$ ← L REQ'D

OMSI-ZOO SLIDE
PORTLAND,OREGON

SUMMARY OF BUTTRESS
DESIGN AT STATION 103+50

0-406
JUNE, 1969

SHANNON & WILSON, INC,
PORTLAND, OREGON

FIG. A-2

APPENDIX B

JAMES I. MUELLER
209 CASPERS STREET
EDMONDS, WASHINGTON
PROSPECT 8-6207

LICENSED PROFESSIONAL
CERAMIC ENGINEER

June 24, 1969

REPORT OF CLAY MINERAL ANALYSIS
SAMPLE B-6A S-3

PREPARATION AND SIZE SEPARATION

A sample of B-6A S-3 was received by messenger from Shannon & Wilson, Inc. on May 29, 1969 with the accompanying letter of transmittal.

Upon receipt, the specimen was transferred to a 5000 ml beaker and sufficient distilled water added to bring the total volume to about 2000 ml. It was then thoroughly blunged using a laboratory mixer.

The beaker was placed upon a vibration free surface and the solid-liquid-suspension permitted to settle. The application of Stokes' Law to the sedimentation of clay in water utilizes the following formula:

$$T = \frac{9h\eta}{2(\rho_1-\rho_2)gr^2}$$

where

T - time of sedimentation (seconds)
h - height of fall (cm)
η - viscosity of liquid (poise
ρ_1 - density of solid (gram/cc)
ρ_2 - density of liquid (gram/cc)
g - gravitational constant
r - equivalent spherical radius of particle

Simplifying and inserting constants, this equals

$$T = \frac{47.83\ h}{r^2}$$

Assuming that all of the clay fractions present will have a particle size less than one micron diameter, a separation was planned at that value. It was observed that, after one hour, the height of the suspension above the settled solids was 9.5 centimeters. A distance of 7 cm below the surface (h in the above formula) was chosen in order that the siphoning of the minus 1 micron suspension would not disturb the larger solids. This meant that a settling time of 22.5 hours was necessary in order to obtain the desired fraction. The sample was again blunged until all solids were in suspension and then allowed to settle on a timed basis.

After siphoning off the minus 1 micron suspension, it was placed in stainless steel drying pans and left in a drier at 95°C until all the water had evaporated. Distilled water was added to the residue and the sedimentation process repeated seven times as each subsequent run indicated considerable material finer than one micron diameter remained.

$$T = 47.83 \frac{h}{r^2}$$

T (min)
h (cm)
r (μ)

For particles 1μ diameter, $r = 0.5$

$$h = 7 \text{ cm}$$

$$T = \frac{47.83 \times 7}{0.25} = 1340 \text{ min.} = 22.3 \text{ hours}$$

DIFFERENTIAL THERMAL ANALYSIS

A representative sample of the dried one micron material was ground and placed in a Harrop Differential Thermal Analyser. The thermogram was obtained by using a heating rate of 20°C per minute. Alpha alumina was used as a thermal reference. The thermogram showed small endotherms at 140°C and 250°C, a large endotherm at 600°C and an exotherm at 950°C. The results were compared to standards available in the literature.

X-RAY DIFFRACTION ANALYSIS

A sample of the one micron material was analyzed by x-ray diffraction. A Norelco x-ray unit using nickel-filtered copper radiation, diffractometer and electronic circuit panel was utilized. The specimen was prepared by loose packing the clay material in a standard Norelco sample holder. The resultant diffraction patterns were compared to those published in the ASTM Diffraction Index File and other publications.

RESULTS

a. Based upon the weights obtained from the seven sedimentation runs and the amount remaining in suspension on reblunging after the last run, it is estimated that 30-50 weight percent of the sample was finer than one micron in diameter.

Report of Clay Mineral Analysis
Sample B-6A S-3

b. Based upon differential thermal analysis and x-ray diffraction analysis, the sample contained principally Kaolinite with minor quantities of nontronite, chlorite and montmorillonite . The high iron content (evidenced by the color and x-ray fluorescent yield) masked to some degree the x-ray work and made semiquantitative determination difficult. The amount of montmorillonite present is estimated to be less than 10 weight percent.

JAMES I. MUELLER
Professional Ceramic Engineer
Washington License No. 5193

JIM:vs

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE • PORTLAND • BURLINGAME

SHANNON & WILSON, INC.
SOIL MECHANICS AND FOUNDATION ENGINEERS
SEATTLE • PORTLAND • BURLINGAME

REPORT TO
OREGON STATE HIGHWAY DEPARTMENT
SALEM, OREGON
AND
BUREAU OF PARKS
PORTLAND, OREGON

REPORT NO. 1
OMSI-ZOO LANDSLIDE INVESTIGATION
PORTLAND, OREGON

JUNE 6, 1969

Shannon and Wilson, Inc.
Soil Mechanics and Foundation Engineers
1632 S. W. Morrison Street
Portland, Oregon 97205

TABLE OF CONTENTS

Page

A. INTRODUCTION 1

B. BACKGROUND INFORMATION 1

C. PREVIOUS STUDIES 4

D. SUMMARY OF THE PERFORMANCE OF THE LANDSLIDE SINCE REMEDIAL MEASURES OF 1959 5

E. FIELD EXPLORATIONS 8

F. LABORATORY TESTS 13

G. REGIONAL GEOLOGY 16

H. DISCUSSION OF SUBSURFACE CONDITIONS 17

I. DISCUSSION OF 1894 SLIDE 22

J. DISCUSSION OF PRELIMINARY STUDIES 23

TABLES

TABLE

I. Summary of the Changes in Horizontal Distance (ΔH) Between Selected Reference Hubs (1961-1969) 6

II. Summary of the Changes in Elevation of Reference Hubs M, N and L 7

III. Summary of Test Data 27

IV. Summary of Piezometetric Water Level Readings 36

APPENDIX

Geophysical Refraction Survey

TABLE OF CONTENTS Continued

LIST OF FIGURES

FIGURE

1. Vicinity Map
2. Photograph of Slide Area
3. Contours of Cut and Fill, Construction 1956-1959
4. Location of Selected Reference Hubs
5. Hub E Vectors of Movement
6. Relationship of Slide Movement and Rainfall Intensity
7. Plan of Explorations
8. Log of Boring, Boring No. B-1
9. Log of Boring, Boring No. B-2
10. Log of Boring, Boring No. B-3
11. Log of Boring, Boring No. B-4
12. Log of Boring, Boring No. B-5
13. Log of Boring, Boring No. B-6 and B-6A
14. Log of Boring, Boring No. B-7
15. Log of Boring, Boring No. B-8 and B-8A
16. Log of Boring, Boring No. B-9
17. Triaxial Tests: Boring B-7, Sample S-4, S-5 (Depth 17.5 - 25.0 ft)
18. Laboratory Torsion Shear Tests: Boring B-8A, Sample S-7 (Depth 40.0 - 42.5 ft)
19. Laboratory Torsion Shear Tests: Boring B-6A, Sample S-3 (Depth 30.0 - 32.5 ft)
20. Plasticity Chart
21. Geologic Cross Sections A-A'
22. Geologic Cross Sections B-B'
23. Geologic Cross Sections C-C'
24. Sewer Network

REPORT NO. 1
OMSI-ZOO LANDSLIDE INVESTIGATION
PORTLAND, OREGON

A. INTRODUCTION

This report presents the results of our Phase I studies of the landslide at the OMSI-Zoo Complex in Portland, Oregon. Discussed herein are the subsurface explorations made on the site, the laboratory tests conducted and, on the basis of these studies, the subsurface conditions, which influence and, to a large extent, control the degree of stability in the hillside. In addition, the report includes a recommendation for work that should be accomplished at this time by others as part of the overall program leading to stabilization of the landslide.

As will be discussed more fully in a section entitled "Discussion of Preliminary Studies", our studies indicate that the work presently proposed to be accomplished in S. W. Canyon Road under existing State contracts will result only in a marginal increase in the factor of safety of the existing slide. As a result of this, an additional scheme for stabilization of the active slide must be developed: the scheme, comprising a toe buttress, will be presented in detail in Report No. 2, which, in accordance with our contract, will be submitted on or before July 1, 1969.

B. BACKGROUND INFORMATION

The Vicinity Map in Fig. 1 shows the location of the landslide under study. The figure shows that the toe of the slide encroaches onto S. W. Canyon Road and that the slide extends northward into the area occupied by the Oregon Museum of Science and Industry (OMSI) and the Portland Zoological

Gardens (Zoo).

The landslide area is located in the central part of the Tualatin Mountains approximately 1.5 miles southwest of downtown Portland. The Tualatin Mountains form a northwest trending ridge approximately 4 miles wide that rises to an elevation of about 1,000 feet (sea level datum). The ridge has been deeply desiccated by streams flowing northeasterly toward the Willamette River - Columbia River lowland and southwesterly to the Tualatin valley. The slide area is located on the north flank of one of the northeasterly trending canyons that contains S. W. Canyon Road (SSR 26). It is part of an extensive area of irregular topography that extends along the north side of Canyon Road (elevation 550-700) and northerly to the crest of the mountains near S. W. Fairview Avenue (elevation 800). The topography of this area, which includes the hummocky topography of the Pitch and Putt Golf Course, is in sharp contrast with the surrounding landforms. It is generally believed that the landforms in this area are a result of major, ancient landslide movements. The approximate outline of this ancient landslide area, as derived from a study of aerial photographs and ground contours, is shown on Fig. 1.

In the hillside, about one mile to the northeast, a landslide developed in 1894 during the construction of City Park Reservoirs Nos. 3 and 4. The slide was thoroughly investigated with borings and shafts down to bedrock and later documented in the Transactions of the American Society of Civil Engineers, 1904[1.] and 1918[2.]. The marked similarities between this slide and the OMSI-Zoo slide are discussed in a subsequent section.

Fig. 2 presents an aerial photograph of the active

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1. Clarke, D.D., "A Phenomenol Landslide", Trans. ASCE, Vol.53, Proc. Paper No. 984, 1904, pp. 322-397.
2. Clarke, D.D., "A Phenomenol Landslide Supplement", Trans. ASCE, Vol. 82, Proc. Paper No. 1415, 1918, pp. 767-796.

landslide. Cracks and scarps in the ground caused by recent movements are shown in this figure as well as those that occurred during the initial stages of movement, but which at the present time, show no evidence of recent movement. As shown in the figure, the active landslide mass extends northward from S. W. Canyon Road (SSR 26), a distance of about 650 feet. The length of the active slide along S. W. Canyon Road is in the order of 1400 feet. Study of the photograph reveals that the southeast corner of the OMSI building is within the active slide mass and that eastward of OMSI some of the facilities of the Zoo are affected by the landslide. The relatively dormant portion of the initial landslide mass is shown, in part, to the north and west of the highway (SSR 26) underpass. According to the available correspondence (State Highway Inter-Department letter June 4, 1964) intermittent slide damage extended 1600 feet west of the underpass during the time of the initial movements in 1958 and 1959.

With respect to the initial slide movements they occurred during a time of construction in the hillside. In part, the construction included the regrading of the hillside for the Zoo facilities. Fig. 3 shows the contour map of the cuts (minus numbers) and fills (plus numbers) made as part of the regrading program that was accomplished primarily in 1956. The contour map reveals that on the east and near the head of the existing slide 10 to 15 feet of fill was placed over a relatively widespread area.

In addition to the regrading of the hillside for the Zoo facilities, work was also begun in about 1957 to widen S. W. Canyon Road and to provide access roads to the Zoo and OMSI facilities. It is our understanding that to widen Canyon Road the toe of the natural slope along the north side of the road was cut back approximately 80 feet. In November, 1957, when about 1/2 of the planned excavation depth was completed some cracks were observed at the top of the slope. At this time the planned slope of 1.5 (horizontal):1 (vertical) was revised to 2.0 (horizontal):1 (vertical) with the provision of two 13-foot wide berms. The berms resulted in an average slope of 2.5 (horizontal):1 (vertical). Fig. 3 shows the extent of the excavations and the fills made as part of this widening project. In addition to widening S. W. Canyon Road access roads were cut in the hillside south of the OMSI structure. The locations of these access roads are shown by dotted lines in Fig. 3. As shown by this figure, cuts for these access roads are in the order of 20 to 25 feet.

The available information indicates that cracks first appeared in the vicinity of the upper limits of the present slide on August 5, 1958, approximately one month after the completion of grading of the highway slopes. At the same time, several residences located a few hundred feet to the west of the Zoo site reportedly experienced structural damage as a result of ground movements. These movements occurred during a relatively dry summer. However, it wasn't until January 3, 1959, after several months of high percipitation, that large scale movements were detected towards the highway cut.

C. PREVIOUS STUDIES

As a result of the massive movements in the hillside in early 1959, a subsurface investigation was undertaken by others for the purpose of (1) determining the mechanics and causes of sliding and (2) recommending remedial measures for the stabilization of the slide.

The investigation that was undertaken at this time included a series of 12 borings plus the installation of about 7 Wilson Slope Indicators. No piezometers were installed. As a result of the data obtained from this investigation and the various office studies that were completed, remedial measures for stabilization were recommended which included principally the construction of a drainage gallery or curtain upslope of the major slide scarp. The purpose of this drainage gallery was to intercept groundwater moving downslope into the slide area. Fig. 2 shows the location of this drainage gallery.

The drainage gallery consists of a series of vertical shafts (diameter 30-inches) spaced on about 8 foot centers and drilled to depths in the order of 80 to 100 feet. The vertical shafts are interconnected at the bottom by a perforated metal drain. Groundwater intercepted by the gallery flows to two manholes where the water is collected and then pumped into the existing sewer system. The shafts, as well as the interconnecting drainage tunnel, are backfilled with suitable filter material. It is our understanding that the pumps are, at present, operated automatically.

It was further recommended in the report pertaining to this investigation that catch basins be constructed about 100 feet above the major slide scarp and that the water collected in these catch basins be pumped to the surface and conducted away from the slide. This recommendation essentially embodied the abandonment of the sewer system within the slide area until stabilization was accomplished. It is our understanding that this recommendation was not acted upon: the significance of this will be discussed in the section "Discussion of Preliminary Studies".

D. SUMMARY OF THE PERFORMANCE OF THE LANDSLIDE SINCE REMEDIAL MEASURES OF 1959

In order to monitor the behavior of the slide after the recommended remedial work was completed, lines of hubs were established in the upper part of the slide. Some of the hubs were located just upslope of the major slide scarp whereas the remainder were located within the unstable area. Fig. 4 shows the locations of the hubs that were used in this present study.

Hubs A, B and D (Line 5) were established upslope of the slide scarp: points C and E were located within the slide.

With this positioning and on the assumption that hubs A, B and D are essentially stable reference points, the change in distance between hubs B-C and D-E yield the magnitude of the downslope movement of the slide mass. In a similar manner, the change in distance between hubs B-C, lines 1 and 2, provide the magnitude of downslope movement of the slide mass closer to OMSI. Table I summarizes the changes in distance that have occurred for these hubs since their installation in February, 1961. The magnitudes of the changes are in most instances minimum values because some of the hubs were destroyed and then replaced. In most instances the destruction of the hubs has resulted in a loss of data over a period of from 2 to 3 years.

TABLE I: SUMMARY OF THE CHANGES IN HORIZONTAL DISTANCE (Δ H) BETWEEN SELECTED REFERENCE HUBS (1961 to 1969)

Hubs	Line	H, Feet
B-C	1	1.6 +
B-C	2	1.5 +
A-B	5	0.05 ±
B-C	5	1.3
D-E	5	0.6

Table I shows that downslope movement of the slide mass has continued over the years since the remedial work was accomplished. Considering the gaps in the measurements the magnitude of horizontal movement that has occurred over the last eight years (1961 - 1969) must be well in excess of 1.5 feet. Study of the change in distance between hubs A-B (lines 1, 2 and 5), which are located upslope of the major slide scarp, shows that only small creep-like movements are occurring upslope of the unstable area.

The change in elevation of some of the hubs shown in Fig. 4 have also been determined over the years. The change in horizontal distance between selected hubs combined with the change in elevation data permit the resultant direction of

the ground movement in certain areas of the slide mass to be determined. For example, at hub C, line 5, the change in elevation of the hub in the time interval 1961-1969 is about 1.6 feet; hence, the resultant of the ground movement in a direction B-C makes an angle of about 50 degrees with a horizontal. At hub E in the direction D-E the resultant of the ground movement is somewhat steeper as shown in Fig. 5. In the period, January 18 to December 17, 1968 the resultant of the ground movement is at an angle of about 60 degrees with the horizontal; however, the resultant steepened considerably this past winter (1968-1969) becoming nearly vertical. In our opinion, the nearly vertical movement of hub E reflects the development of a graben-type wedge near the head of the slide. The approximate limits of this graben in the vicinity of hub E are shown in the aerial photograph, Fig. 2.

A study of the change in elevation of reference hubs M, N and L (Fig. 4) reveals that these hubs have settled considerably over the years. Table II shows the total magnitude of settlement that has occurred at these locations since 1961.

TABLE II: SUMMARY IN THE CHANGES IN ELEVATION OF REFERENCE HUBS M, N AND L.

Reference Point	Settlement, feet
M	1.0
N	0.8
L	0.4

The pattern of the settlements indicates that the ground has settled in the area of these hubs appreciably more on the north than on the south, suggesting that the effects of the graben shown in Fig. 2 extend both westward and southward into the area of the Commissary building.

The change in elevation of reference hubs J and K is negligible over the years since 1961 indicating that nearly horizontal movement of the slide mass is occurring through the

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area of these hubs.

Fig. 6 shows that a relationship exists between the slide movements and the amount and intensity of precipitation. In the upper portion of the figure, the change in distance between selected reference hubs, i.e., horizontal movement, is presented with respect to time, i.e., from 1962 to present. Below this plot the amount and intensity of the precipitation, is shown, the latter in inches per month. Study of the plots reveals that the rate of movement of the slide increases in the wet season and diminishes in the dry season. During the wet seasons 1965-1966, 1966-1967 and 1967-1968 the total amount and intensity of the precipitation was comparatively low and movements were negligible. However, in the past wet season, 1968-1969, the intensity of the precipitation over two successive months, December and January, was significantly greater than in any previous years and a disproportionate increase in the rate of movement occurred as shown by the plot.

As a result of the accelerated movements of the slide mass this past wet season (1968-1969) and, also, because of the work proposed to be accomplished by the State at the toe of the slope, a program of additional study was authorized of which this report is a part. The primary purposes of this additional study were (1) to evaluate the factors influencing or controlling the stability of the hillside and (2) to evaluate the degree of effectiveness of the work presently planned by the State at the toe of the slope with respect to increasing the factor of safety of the hillside in the slide area. The following sections discuss the work accomplished as part of Phase I of this study.

E. FIELD EXPLORATIONS

In order to observe the subsurface conditions and the materials in the slide area and in the vicinity of the slide, nine borings were made which are designated borings B-1 through B-9. The locations of the borings are shown on the Plan in Fig. 7. The figure shows that five borings were located in the slide area whereas the remaining ones were located upslope and outside of the slide area. The depths of the borings varied from a minimum of 7-1/2 feet in boring B-9 to as much as 102 feet in boring B-2. In all instances, where applicable, the borings extended well below the known zone or zones of failure and, in all cases, terminated at refusal conditions in bedrock.

At boring locations B-6 and B-8 some additional selective drilling was done in order to obtain undisturbed samples of material particularly significant to the study. The additional drilling was designated B-6A and B-8A.

All the borings were made using a Mobile hollow-stem auger provided by Soil Sampling Service of Tacoma, Washington. A geologist-inspector from our staff located the borings, observed the drilling operations and logged the samples of soil as they were obtained in the sampler.

In the borings sampling was generally done at 5-foot intervals of depth. For the most part, standard split-spoon samples were taken; however, at selected intervals of depth undisturbed samples were also obtained. The standard split-spoon samples were obtained by driving a sampler into the soil a distance of 18-inches using a 140-lb. hammer dropped 30-inches. The number of blows required to drive the sampler the last 12-inches or 1-foot is known as the standard penetration resistance or N-value. The N-values or blow counts provide a measure of the degree of compactness of granular soils such as sands and gravels and the degree of softness (or consistency) of cohesive soils such as clay. The samples that were obtained by the split-spoon sampler were classified in the field by our inspector and placed in air-tight glass jars for return to our Portland laboratory.

The undisturbed samples of soil were obtained at various intervals in the borings by pushing 3-inch O.D. steel Shelby tubes into the soil using the hydraulic system of the drill rig. The soil exposed at both ends of the tubes was classified and then the ends of the tubes were waxed in order to prevent a loss of moisture. The Shelby tube samples are relatively undisturbed and, hence, suitable for more refined tests, such as triaxial compression tests and torsional vane shear tests. These two types of tests can be used to determine the in-situ shear strength properties of the subsurface materials.

Piezometers. Piezometers were installed at each boring location in order to observe the piezometric pressures in the hillside, particularly in the area of active slippage. In general, one deep piezometer and one shallow piezometer was installed at each boring location.

The piezometer consisted of a 1/2-inch O.D. plastic riser pipe that was connected at the bottom to a Norton porous stone. The riser pipe with the porous stone attached at the tip was lowered down to the bottom of the boring at the completion of the hole. The annular space was then backfilled with clean pea gravel up to a specified level that was selected from the study of the boring logs. Then a seal of bentonite was placed usually varying in thickness from 2 to 3 feet. Above the seal to the ground surface, natural soil was used to backfill the hole. Any water in the ground enters the plastic tubing through the porous stone. The level of the water in the tubing is determined by inserting an electrical probe into the tubing. When contact with the water level is made an electrical circuit is completed which is reflected at the ground surface by the lighting of a small flashlight bulb.

At the boring locations in the slide area one piezometer was installed below the known zone of failure whereas the other one was installed above the failure zone. The seals for these piezometers were placed such that it would be possible to record or to measure the piezometric pressures that existed both above and below the failure zone.

The logs of the borings are shown in Figs. 8 through 16. Each log presents a general description of the types of soils and/or rocks encountered. The depths, just to the right of the descriptions, indicate where the types of soils changed in composition and/or characteristics. Further to the right the number, depth and types of samples that were obtained during the drilling operations are shown. In an adjacent column the piezometer locations are indicated. In this column the location of the piezometer tip, the extent of the clean pea gravel backfill and the location of the bentonite seal are indicated. Also shown in this column alongside the riser pipe is the piezometric water level for the particular piezometer. The dates of the observations were May, 1969. At the extreme right in the boring logs, the standard penetration resistances (N-values) that were obtained in the taking of the split-spoon samples are plotted. At the top of each boring log the elevation of the ground surface at the location of the boring is tabulated.

Seismic Refraction Survey. In order to supplement the information that was obtained in the borings and to provide information between borings, three seismic refraction survey lines were run at the locations shown in Fig. 7. In essence, two nearly parallel lines (S-1 and S-2) were run across the landslide area in a north-south direction through the boring locations and the third seismic line (S-3) was run along S. W. Canyon Road at the toe of the slope. The lengths of all lines were in the order of 1250 feet. To obtain the necessary detail at depth seismic detectors were closely spaced with a maximum spacing of 25 feet. In addition, to provide more detail as to subsurface conditions, an uphole velocity survey was run in a 75 foot boring located near boring B-8. For the refraction surveys the necessary energy was induced into the ground using small quantities of dynamite charges and falling weights.

All the seismic work was accomplished by Geo-Recon, Inc. of Seattle, Washington. Their letter report commenting on the findings of the geophysical survey along with the 3 seismic profiles, S-1 through S-3 are presented in the Appendix. The data presented in the Appendix has been incorporated in the main body of the report both in the text and in the principal figures showing the geologic conditions within the slide and in the vicinity of the slide.

Slope Indicators. To obtain information as to the depth and the characteristics of the zone of failure, two slope indicators were installed within the active slide area. The slope indicators were installed at boring locations B-4 and B-5.

The Wilson Slope Indicator is a precision instrument for measuring earth movement. The instrument is normally lowered down a grooved aluminum casing which controls the orientation of the instrument in a pre-determined direction. Inclination readings are taken at frequent intervals of depth and are subsequently converted to displacement. Consecutive readings at predetermined depth intervals and at periodic time intervals are used to determine the depth and the rate of ground movement.

The 4-inch diameter grooved casing was installed in the bore hole upon completion of the boring. This casing was installed through the hollow portion of the auger. As the hollow stem auger was withdrawn from the hole the open space between the walls of the boring and the outside of the aluminum casing was subsequently backfilled with pea gravel. The slope indicator installations were made by personnel of Soil Sampling Service. Shortly after completion of the slope indicator installation the initial readings were taken under the supervision of an inspector provided by Slope Indicator Company of Seattle, Washington: subsequent readings were made by personnel from our firm, generally at intervals of from 2 to 3 times per week subsequent to the installation of the instruments. The displacements observed in the slope indicators are plotted in the appropriate boring logs for B-4 and B-5 in Figs. 11 and 12 respectively.

F. LABORATORY TESTS

All the samples, both the jar samples and the Shelby tube samples, were visually examined in our laboratory to refine the classification made in the field by our inspector-geologist. The degree of moisture in the sample whether it was dry, moist or wet and the plasticity of the sample were particularly noted in the examination.

In addition to the visual classification, Atterberg limit and natural water content determinations were made on the overburden and highly weathered bedrock materials. The Atterberg limit data in combination with the natural content information provide qualitative information concerning the physical characteristics of the overburden and highly weathered materials encountered in the hillside.

Besides these routine tests, triaxial shear tests and torsion shear tests were also conducted. These tests were made in order to obtain the shear strength perimeters of the overburden clayey silts (Portland SILTS) and the reddish-brown plastic clays (CH) located within or near the failure zone. These materials exist in the hillside from the ground surface down to depths that vary from 20 to 65 feet. The triaxial tests, consolidated-undrained ($\bar{R}$) tests, were conducted on samples S-4 and S-5 that were obtained at a depth of about 20 feet in boring B-7. The diameter and the length of the tested specimens was about 2.1 and 5.0 inches, respectively. Before the application of the stress difference, the samples were saturated using a back pressure in the order of 100 psi. Following complete saturation of the samples the specimens were failed using essentially standard procedures. Fig. 17 summarizes the results of the triaxial compression testing. The figure shows, in the upper left hand corner, stress versus strain and porewater versus strain curves. Below these curves the Mohr strength envelope is shown for both the total stress conditions and effective stress conditions. As shown in this plot, the effective angle of shearing resistance, ϕ', for this material, which is classified as a brown silty clay (Portland SILTS) is in the order of 34 degrees.

The torsional shear tests were of two types each one developed in our Seattle laboratory. The initial tests were conducted using the procedures and apparatus shown in Fig. 18. The test is conducted using a ring which is placed on top of the clay. The underside of the ring is roughened. A normal load is applied to the ring and the torque that is required to twist the ring to failure is measured. The shearing stress is calculated from the measured values of torque and a plot of normal stress versus shearing stress is developed such as that shown in the figure. As indicated in the figure the angle of shearing resistance, ϕ', for the material, which is classified as a clayey SILT (ML) is in the order of 29 degrees.

Drilling revealed the existence in the hillside of a brick-red plastic clay (CH), located in most instances in the upper portion of either the decomposed or unweathered basalt bedrock. The clays or indications of this clay were present within the active zone of failure. In order to obtain realistic values of the shear strength of the plastic clays, those that would be representative of conditions within the zone of movement, a different torsional shear test procedure was developed as shown in Fig. 19. This test procedure permitted large scale movements on the failure surface, necessary to develop partial slickensides and a residual angle of shearing resistance. For this test two adjacent Shelby tube segments were cut and machined to eliminate any steel to steel surfaces. The plastic clay sample, contained within the Shelby tube segments, was then pre-cut. The bottom segment of the Shelby tube was fixed in the bowl of the consolidation test apparatus. The other segment was placed on top and a constant normal load applied. A torque, applied to the upper segment, twisted the segment until failure and, after failure, for at least 3 complete revolutions. The shearing stress on the failure surface was calculated for the peak and the residual conditions, i.e., after 3 complete revolutions, and a plot of normal stress versus shearing stress developed as shown in Fig. 19. As shown in the figure, the peak angle of shearing resistance, ϕ', of the plastic clay is in the order of 15 degrees whereas the residual angle of shearing resistance, ϕ'_R , is about 10 degrees. The cohesion intercept for both cases is in the order of 400 lbs. per sq. ft. Based upon past experiences with similar types of materials, these values of shearing resistance are realistic. Furthermore, they suggest that failure has occurred in the hillside within materials that exhibit very little resistance to sliding or movement. At the present time, another torsion shear test is underway on another sample, but in this instance, the pre-cut contact surface has been lightly sprayed with water. We expect that the thin film of water will reduce if not eliminate the effects of cohesion, with the angles of shearing resistance, ϕ', and ϕ'_R remaining the same as those shown in Fig. 19.

A summary of the visual classification of all samples and other pertinent data such as laboratory test results and the types of laboratory tests that were completed on other samples is presented in Table III, which is enclosed in the report at the end of the text. The Atterberg limit data are summarized in the Plasticity Chart in Fig. 20 and also in the boring logs Figs. 8 through 16. The natural water contents that were determined in conjunction with the Atterberg limit tests are also presented in the boring logs.

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G. REGIONAL GEOLOGY

The major geologic units which underlie the OMSI-Zoo area include the following from youngest to oldest:

1. Portland Hills Silt Formation - late Pleistocene Age.
2. Troutdale Formation - early Pliocene Age.
3. Helvetia Formation - early Pliocene Age.
4. Columbia River Basalt Formation - middle to late Miocene Age.

The entire OMSI-Zoo area is underlain at the ground surface by loessal soils of the Portland Hills Silt Formation (Upland Silt of Schlicker and Deacon, 1967). The formation occurs regionally throughout the Tualatin Mountains above elevation 250 feet where it caps the tops of the ridges and spurs. In the OMSI-Zoo area it consists of sandy silt, clayey silt and silty clay and ranges in thickness from 17 to 50 feet.

Soils of the Troutdale Formation which underlie the loessal soils were found only in one isolated locality at the toe of the slide area near boring B-9. Here the soils consisted of gray clayey silt with scattered pebbles and partly carbonized wood fragments. Fine grained soils of this formation, however, are present in the high road cuts immediately across Canyon Road to the south of the OMSI-Zoo complex.

Soils of the Helvetia Formation (?) were encountered in borings B-2, B-3, B-6, B-8 and B-8A. They consisted of deeply weathered brown, reddish-brown clay with scattered fine to medium sand and occasional pebbles. A brick-red clay bed which occurs above weathered basalt in borings B-8, B-8A and B-6 may also be a part of this formation. The soils in composition, are similar to deeply weathered latertic soils exposed near the Community of Helvetia in the Tualatin valley which were named the Helvetia Formation by Schlicker and Deacon, 1967. Because of the apparent erratic distribution and variable thickness (0 - 20 ft.) of these soils in the OMSI-Zoo area, we cannot be positive that they are part of the Helvetia Formation. The determinations are therefore tentative.

Basaltic lavas of the Columbia River Basalt Formation underlie all of the previously described formations in the OMSI-Zoo area and comprise most of the rock units in the Tualatin Mountains. At the OMSI-Zoo complex they consist of an upper unit of decomposed basalt that is firm to hard and has the composition of clayey silt, silty clay and sandy silt or silty very fine sand. Although lateritic in most respects, joint planes and the original mineral texture can be observed in much of the unit. The decomposed basalt unit is underlain throughout the OMSI-Zoo area by weathered dense basalt.

H. DISCUSSION OF SUBSURFACE CONDITIONS

Detailed subsurface information is provided primarily by borings B-1 through B-8, which were drilled as part of this investigation to depths ranging from about 57 to 100 feet below the ground surface. Additional subsurface information, obtained by others, has also been utilized in this study. The soil units which were penetrated in the borings are summarized as follows:

1. Manmade Fill. Manmade FILL was encountered in three borings at shallow depth. In boring B-1 and B-7 it was present from the ground surface down to about depth 9 feet and in B-8, from the ground surface down to depth 8 feet. Other areas of fill are indicated in Fig. 3 entitled Contours of Cut and Fill, Construction 1956-59.

2. Brown Silt and Clay (Portland Hills Silt Formation). The unit consists of firm to stiff, brown sandy SILT, clayey SILT and silty CLAY. It was present at the ground surface in all borings, except in those areas where fill existed. In boring B-4, numerous fractures and slickensides were found in the unit between depths

12 and 42 feet. On the basis of the Atterberg limit data, most of the material in this formation can be classified as a CL to ML-type material although occasional zones of relatively plastic clay (CH) are also found.

3. Reddish Brown Clay and Red Clay (Helvetia Formation (?)). The unit consists of very stiff, reddish brown and mottled brown clay with scattered fine to medium sand and occasional pebbles. It was penetrated in boring B-2, from 40 to 50 feet, in boring B-3 from 50 to 56 feet and in B-8 and B-8A from 25 to 46 feet. A brick-red clay bed was encountered in boring B-8 and B-8A from 46 to 49 feet and in boring B-6 from 25 to 40 feet. The erratic distribution of the Helvetia soils indicates that erosion prior to deposition of the Portland Hills Silt Formation may have removed the soils from part of the area. It is also possible that the unit is present in other areas, but too thin to be recovered in the sample interval or also, has been redistributed by landslide movements.

   The materials in this Formation, particularly the zones of brick-red clay are highly plastic and, as revealed by our laboratory tests, of very low shearing resistance. Our studies revealed that the failure zone at the base of the slide mass is primarily within this Formation or in materials of a similar highly plastic nature.

4. Firm to Stiff Clayey Silt - Decomposed Basalt (Columbia River Basalt Formation). The unit consists of firm to stiff, very mottled rust brown, clayey SILT and sandy SILT with scattered hard rock fragments. It was penetrated principally in boring B-5 from 20 to 35 feet.

5. Hard, Clayey Silt and Sandy Silt - Decomposed Basalt (Columbia River Basalt Formation). The unit consists of hard very mottled, rust brown, reddish and yellow brown and gray, clayey SILT and sandy SILT. Yellow mineraloid filling of vesicules indicates that some of the basalt was amygdaloidal. Although the unit is deeply weathered, the original mineral texture could often be observed and joint planes are also recognizable. The unit was penetrated in all borings and ranged in depths from 30 feet to about 90 feet; information from D&M boring #9, refer to Fig. 7, indicated that the unit could extend to a depth greater than 109 feet. Fractures and slickensides were observed in the unit in borings B-4, B-5 and B-7.

6. Dense Weathered Basalt (Columbia River Basalt Formation). This unit consists of dense brown to gray, crystalline basalt. It was penetrated in borings at depths ranging from 45 feet (B-6) to 88.5 feet (B-4) and all borings drilled in this investigation bottomed in the unit.

The subsurface information discussed above has been summarized in a general manner in 3 Geologic Cross Sections, designated A-A', B-B' and C-C' (Figs. 21, 22 and 23). The locations of these 3 sections are shown in Fig. 7: the figure shows that Geologic Cross Section A-A' extends through borings B-1 and B-2; Geologic Cross Section B-B' extends through borings B-3, B-4 and B-5; and Geologic Cross Section C-C' extends through borings B-6, B-7, B-8 and B-9. The Cross Sections have been prepared using subsurface information obtained from borings made by others, plus the geophysical survey made as part of this investigation. The location of the zone of failure at depth as detected by the Wilson Slope Indicators and other data is shown in each cross section.

Groundwater information is also shown on the cross sections alongside the piezometers. The water levels were obtained, as noted earlier, in May, 1969. A complete summary of the water level data for each piezometer and for the slope indicators at B-4 and B-5 is presented in Table IV, located at the end of the text. In general, the piezometric water levels indicate that groundwater is perched within various geologic units -- the Portland Hills Silts, the Helvetia Formation and also in the decomposed basalt, which compared to the other formations, is relatively permeable.

The piezometric water levels reveal that the groundwater conditions in the hillside are quite variable as might be expected in ground with a history of instability. For example, water levels were found to be in the order of 15 feet below the ground surface in the piezometers installed upslope of the active slide mass (B-2, B-3 and B-6). However, within the active landslide, water levels in the shallow piezometers varied from about depth 15 feet in boring B-4 and B-8 to 41 feet in B-5: no water was found in the piezometers at boring B-7. The high water level recorded at B-4 just downslope of the drainage curtain is of interest. It may indicate that the storm drainage system is contributing water to this locality. Alternatively, however, the high water levels in B-4 could indicate deterioration of the effectiveness of the drainage curtain in this area. These points will be discussed more fully in a later section.

Piezometric water levels in the deeper piezometers at each of the borings was almost non-existent. As a matter of fact, the piezometers were filled with water several times and subsequent readings indicated that the water had drained out of the piezometers. In each case, the piezometers were set at depths which penetrated at least a few feet into the dense basalt unit. In our opinion, the data indicate that the dense basalt is permeable and that the deep piezometers are acting as drains. That the deep piezometers are acting as drains, suggests that the use of slope indicator casings as observation wells would in this instance provide misleading water level information, since drainage would result in water levels lower than actual. Comparison of the water levels in the piezometers at B-4 and B-5 with the water levels in the respective slope indicator casings, Table IV, supports this concept.

Groundwater information developed at the OMSI-Zoo complex correlates well with information on regional water tables. Throughout the Tualatin Mountains in the Portland Region groundwater is known to occur under perched conditions in the Portland Hills Silt and under confined conditions in the Columbia River Basalt sequence. Static water levels in confined basalt aquifers are near the level of the Willamette River.

The seismic investigations provided important information on subsurface conditions, particularly between borings and at greater depths than the borings as shown in part on the cross sections. Three major units were defined by the seismic study: (1) an upper unit of 800 ft/sec material, (2) an intermediate unit of 4500/5250 ft/sec material and (3) two dense units of 7000-8000 ft/sec and 12,500 ft/sec material. The upper 800 ft/sec unit is a loose shallow surface layer of silt above the water table and is considered to be correlative with part of the Portland Hills Silt Formation. The intermediate velocity unit, 4500-5250 ft/sec, correlates well with the silt and clay units of the Portland Hills Silt Formation, the clay of the Helvetia (?) Formation and the clayey silt and silty clay phases of the decomposed (laterized) Columbia River Basalt Formation. The change from the 4500-5250 to the 7000-8000 ft/sec material correlates well with the weathered dense basalt unit in Geologic Section A-A', Fig. 21, at the toe of the slope, and in Geologic Section B-B', Fig. 22, throughout. Of significance, the contact of the decomposed basalt unit and the weathered basalt unit follows very closely the approximate zone of failure in the active landslide area as determined by slope indicators and other data. The lowermost velocity zone of 12,500 feet per second, while not penetrated in any of the borings, is typical of unweathered dense basalt.

I. DISCUSSION OF 1894 SLIDE

Fig. 1 shows the location of a large landslide that occurred in 1894, about 0.5 miles to the northeast of the OMSI-Zoo slide. The slide was first observed during the construction of City Reservoirs Nos. 3 and 4. The land area involved in the slide was in the order of about 30 acres.

The reservoirs are located in a small ravine in a City Park. During construction in the early part of August, 1894, a slip was observed about half way in the uphill slope. Close examination of this failure zone revealed that slippage was occurring between strata of blue and yellow clay, the yellow clay being above the blue. After this initial slippage, a reconnaissance of the entire hillside revealed cracks and scarps extending as much as 1700 feet uphill from the toe of the slide. The slide extended across the toe a distance of about 1100 feet.

The slide was investigated with borings and open shafts. The borings and shafts revealed the presence of a thin zone of blue clay overlying bedrock on which the slide mass was moving. In addition, from the shaft excavations, the character of the materials forming the mass of the slide was determined to be largely that of broken rock of small size mixed with clay. The shafts also disclosed the existence of numerous water pockets in the landslide mass, just above the bedrock surface. The drainage of these large water pockets had a marked affect on the rate of movement of the slide as indicated by surface surveys. In addition, the surface surveys revealed that there was a marked increase in the rate of movement of the landslide during the winter or rainy months, from about November to May inclusive, and a corresponding decrease in the rate of movement during the remaining months of the year, when the rainfall was considerably less.

As a result of the explorations and the survey measurements all of which revealed the zone of slippage and the relationship of water to the rate of movement of the slide mass, remedial work, consisting of an extensive system of drainage tunnels, was adopted. The network of drainage tunnels took several years to complete. For the most part the drainage tunnels were effective; however, the surface survey measurements that were taken following the completion of the remedial work revealed that slow creep-like movements continued to occur in the hillside. The average rate of movement in the hillside following completion of remedial work was in the order of 0.5 inches per year.

Based upon the foregoing and our investigations of the OMSI-Zoo slide discussed previously, certain similarities appear to exist between the two slides. First, the zone of failure of the OMSI-Zoo slide generally overlies weathered basalt bedrock. In addition, the samples of soil obtained within the zone of failure are essentially composed of plastic clay (CH), which exhibits characteristically a relatively low angle of shearing resistance, in the order of about 12 degrees. Secondly, as disclosed in the 1894 slide, groundwater conditions are erratic, but the surface surveys indicate that the rate of movement of the slide mass is related to the amount and intensity of the precipitation that falls on the hillside. Furthermore, study of both slides reveals that drainage was effective in controlling the slide movements, but it did not altogether halt the movements.

J. DISCUSSION OF PRELIMINARY STUDIES

The work planned by the State at the toe of the slide consists principally of raising the grade of S. W. Canyon Road from about the new Vista Ridge tunnels westward to the underpass structure providing access to the Zoo. The location of the underpass structure is shown in the photograph in Fig. 2.

Cross sections of S. W. Canyon Road, provided by the State, show that the fill that will be placed to raise the grade of S. W. Canyon Road will vary considerably in thickness through the active slide area (Sta. 96 to Sta. 108). In general, from a maximum thickness of 22 ft. at Sta. 96 the thickness will decrease rather uniformly to about 1 ft. at about Sta. 106. In general terms the average thickness of the fill within the units of the active slide will be somewhat less than 10 ft. Stability analyses, presently underway, indicate that this average thickness of fill will increase the factor of safety of the hillside from about 1.0 (existing) to 1.1. In our opinion, such a marginal increase indicates that positive control of the landslide movements will not be achieved by the planned work. It is our opinion that, in order to be effective, a minimal factor of safety of 1.3 should be achieved with any new remedial work.

The history of hillside movements in conjuction with past remedial work indicates that drainage alone will not result in positive control of the landslide. The drainage curtain that was installed upslope of the slide (Fig. 2) slowed the ground movements, but it did not halt them. Hence, extensive new drainage does not seem to be the answer to stabilization. This concept is supported by our experience with other similar landslides which have demonstrated that drainage is not particularly effective, if, in the zone of failure, the material exhibits a relatively low angle of effective shearing resistance (ϕ angle) such as exists for this slide.

The most positive control of the OMSI-Zoo slide can be economically achieved, in our opinion, with a toe buttress, constructed across the full width of the active slide. The design dimensions of the buttress are presently under study. Basically it will be designed on the assumption that during a very wet winter season, such as the past one, the groundwater table rises close to the ground surface, and as a result, slide movements accelerate, i.e., the factor of safety, F.S≈1. Using this assumption, the toe buttress will be designed to increase the factor of safety in the hillside to F.S. = 1.3 (minimum). We will consider that the bulk of the buttress material will consist of 14 in. minus well-graded pit-run rock from Cobb's quarry.

Besides the toe buttress, additional measures can be taken which, in our opinion, will measurably increase the factor of safety in the hillside. Fig. 24 shows a general plan of the network of sewer lines in a portion of the OMSI-Zoo complex. The figure shows that most of the precipitation that falls in the area upslope of the slide, i.e., the Pitch and Putt Golf Course, the Parking Area north of OMSI and similar, runs off into catch basins and into the sewer network, where it is collected and led across the slide scarp in the general areas of A, B, C and D, refer to Fig. 24. In our opinion, with the sizeable displacements that have occurred in the slide over the past 10 years, breaks most likely exist in the sewer network, particularly at the major slide scarp, that allow much of the storm run-off to escape from the sewer lines into the slide. Hence, the effectiveness of the drainage curtain may be, in a very significant way, nullified. Because entrance of large quantities of storm run-off into the slide would be very detrimental to stability we strongly urge that a comprehensive survey be made of the sewer network system, in the slide mass itself and where it crosses over the major slide scarp. In our opinion, an economical approach to such a survey would be by use of T.V. cameras, which can be drawn through the sewer line from one manhole to another, observing breaks, cracks, and similar along the way. The extent of any defects in the lines can be evaluated and plans made for repairs.

In this regard, the defects should be if at all possible corrected by the next winter season, but after the toe buttress has been constructed. In so doing, the corrective measures should take into account that some small movements may still continue to develop in the slide area, particularly for two or three years after the installation of the toe buttress, as the slide mass and the buttress materials adjust to the new stress conditions.

A report of all engineering studies connected with the above, as noted earlier, will be submitted on or before July 1 in accordance with our Contract.

American Institute of Professional Geologists
Certificate Number 471
AIPG
Robert J. Deacon
Certified Professional Geologist

SHANNON & WILSON, INC.

by
Robert J. Deacon

Registered Professional Engineer
6029
Oregon
Sept. 8, 1967
L. Radley Squier

by L. Radley Squier
L. Radley Squier
Principal Engineer

TABLE III SUMMARY OF TEST DATA

0-406

Sheet 1 of 9.

Boring No.	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits			Other Tests	Sample Classification
					LL	PL	PI		
B-1	S-1	2.5-4.0	3,4,4	46	48	26	22		FILL: Firm, mottled rust brown, clayey SILT (decomposed Basalt?).
	S-2	7.5-9.0	1/12, 2/16						FILL: Soft, brown, silty CLAY with scattered angular rock fragments.
	S-3	12.5-14.0	1,2,2	29	33	22	11		Soft, brown-gray, clayey SILT. Fill?
	S-4	17.5-19.0	3,4,5						Firm, mottled rust brown, clayey SILT or silty CLAY with scattered angular rock fragments - fill? (decomposed Basalt?)
	S-5	22.5-24.0	2,2,3	40					Firm, mottled rust brown, clayey SILT (decomposed Basalt).
	S-6	27.5-29.0	4,4,6						Firm, very mottled rust brown, clayey SILT with weathered rock fragments and yellow mineraloids (decomposed Basalt).
	S-7	32.5-34.0	10,12, 15	39					Hard, brown, clayey SILT with hard weathered rock fragments (decomposed Basalt).
	S-8	37.5-39.0	12,10, 10						Hard, mottled brown, clayey SILT (possible decomposed Tuff).
	S-9	42.5-44.0	8,8,11	42					Stiff to hard, mottled brown-gray, clayey SILT - basaltic texture in gray areas (decomposed Basalt).
	S-10	47.5-49.0	6,12,12						Hard, brown, and gray sandy SILT (decomposed Basalt).
	S-11	52.5-54.0	6,11,15	52					Hard, mottled yellow brown, clayey SILT (decomposed amygdaloidal Basalt - vesicles

		44.0	8,8,11	42					Stiff to hard, mottled brown-gray, clayey SILT - basaltic texture in gray areas (decomposed Basalt).
	S-10	47.5-49.0	6,12,12						Hard, brown, and gray sandy SILT (decomposed Basalt).
	S-11	52.5-54.0	6,11,15	52					Hard, mottled yellow brown, clayey SILT (decomposed amygdaloidal Basalt - vesicles filled with yellow mineraloid).
	S-12	57.5-59.0	8,13,20						Hard, gray brown, sandy SILT, or silty very fine SAND, with angular rock fragments (decomposed Basalt).
	S-13	62.5-64.0	6,19,30						Very hard, brown, weathered BASALT - friable to crumbly.
	S-14	67.5-69.0	26,32, 53						Very hard, brown to gray, weathered BASALT - friable.
	S-15	72.5-74.0	21,30, 75						Dense, brown, weathered BASALT with yellow mineraloid filling of veins or joints.
	S-16	77.5-78.4	21, 50/5"						Very hard, brown, weathered BASALT - friable, crumbles easily.
	S-17	82.5-83.0	50/6"						Dense, gray, weathered BASALT.
B-2	S-1	2.5-4.0	3,4,6	28	34	23	11		Firm, brown, slightly clayey SILT.
	S-2	7.5-9.0	4,4,5						Firm, brown, clayey SILT - moist, possible water bearing.
	S-3	12.5-14.0	5,6,8	22	38	17	21		Very firm, mottled rust brown, silty CLAY with pea size shot.
	S-4	17.5-19.0	5,6,9						Stiff, brown, clayey SILT.

TABLE III SUMMARY OF TEST DATA

Sheet 2 of 9.

Boring No.	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other Tests	Sample Classification
B-2 CONTINUED									
	S-5	22.5-24.0	3,4,5	34	58	27	31		Stiff, brown, silty CLAY with possible slickensides.
	S-6	27.5-29.0	3,2,3						Firm, brown, slightly clayey SILT - water bearing.
	S-7	32.5-34.0	6,8,[illegible]	24	32	22	10		Firm, brown, SILT with scattered weathered sand (?).
	S-8	37.5-39.0	4,5,9						Firm, brown, very clayey SILT.
	S-9	42.5-44.0	6,9,13	25	36	19	17		Very stiff, slightly reddish brown CLAY.
	S-10	47.5-49.0	10,13,15	25	58	15	43		Very stiff, dark brown CLAY with scattered weathered fine to medium sand.
	S-11	52.5-54.0	4,6,7						Firm, mottled reddish brown, rust stained, clayey SILT - **Helvetia Formation** ?
	S-12	57.5-59.0	6,8,9						Hard, mottled brown, rust stained, clayey SILT (decomposed Basalt).
	S-13	62.5-64.0	11,11,20						Hard, very mottled rust brown, clayey SILT (decomposed Basalt).
	S-14	67.5-69.0	8,11,11						Hard, very mottled rust brown, clayey SILT (decomposed Basalt).
	S-15	72.5-74.0	7,8,9						Hard, very mottled rust brown, clayey SILT (decomposed Basalt).

	S-13	62.5-64.0	11,11,20						Hard, very mottled rust brown, clayey SILT (decomposed Basalt).
	S-14	67.5-69.0	8,11,11						Hard, very mottled rust brown, clayey SILT (decomposed Basalt).
	S-15	72.5-74.0	7,8,9						Hard, very mottled rust brown, clayey SILT (decomposed Basalt).
	S-16	77.5-79.0	8,10,12						Hard, very mottled rust brown, clayey SILT (decomposed Basalt) with vertical iron oxide stains. Basalt texture visible.
	S-17	82.5-84.0	6,7,12						Hard, dark brown-gray, silty CLAY. Basalt texture visible - jointed (decomposed Basalt).
	S-18	87.5-89.0	6,9,13						Hard, mottled, dark brown to yellow brown clayey SILT (decomposed Basalt).
	S-19	92.5-94.0	5,6,9						Stiff, mottled brown and brown-gray, clayey SILT - with possible disturbed zones (decomposed Basalt).
	S-20	97.5-99.0	19,21,32						Hard, very mottled brown gray with purple cast, silty CLAY and sandy SILT - possible disturbed zone (decomposed Basalt).
	S-21	102.5-102.7	50/2"						Dense, gray, weathered BASALT.
B-3	S-1	2.5-4.0	2,3,3						Firm brown, clayey SILT.
	S-2	7.5-9.0	2,3,3	32.1	36	30	6		Firm, mottled, rust brown, slightly clayey SILT, micaceous.
	S-3	12.5-14.0	5,3,4						Firm, very mottled, rust brown, slightly clayey SILT. Becomes medium gray sandy micaceous SILT in bottom part of sample.

TABLE III SUMMARY OF TEST DATA

0-406
Sheet 3 of 9.

Boring No.	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits			Other Tests	Sample Classification
					LL	PL	PI		
B-3 CONTINUED									
	S-4	17.5-19.0	2,3,5	26	37	17	10		Firm, brownish gray, silty CLAY with scattered fine peaty matter.
	S-5	22.5-24.0	2,3,4						Firm, slightly mottled tan and light brown, slightly clayey SILT.
	S-6	27.5-29.0	3,5,5	32	58	26	32		Verv firm to stiff, mottled brown very clayey SILT.
	S-7	32.5-34.0	1,2,3						Firm, brown, clayey SILT. Micaceous.
	S-8	37.5-39.0	4,5,7	27	42	20	22		Firm, mottled brown, clayey SILT with scattered iron shot.
	S-9	42.5-44.0	3,3,5						Firm, brown, clayey SILT.
	S-10	47.5-49.0	6,7,9	40	65	35	30		Stiff, mottled rust brown, silty CLAY or clayey SILT.
	S-11	52.5-54.0	6,9,13	27	49	27	22		Very stiff, mottled brown CLAY with scattered weathered sand up to pebble size. Helvetia Formation(?).
	S-12	57.5-59.0	7,10,13						Very stiff to hard, mottled gray, iron stained, clayey SILT or silty CLAY (decomposed Basalt).
	S-13	62.5-64.0	10,14,19						Hard, mottled gray, sandy clayey SILT with scattered pebble size rock fragments (decomposed Basalt).
	S-14	67.5-68.5	20,55/6"						Dense hard, brown, rust stained, weathered BASALT.

									(decomposed Basalt).
	S-13	62.5-64.0	10,14, 19						Hard, mottled gray, sandy clayey SILT with scattered pebble size rock fragments (decomposed Basalt).
	S-14	67.5-68.5	20, 55/6"						Dense hard, brown, rust stained, weathered BASALT.
	S-15	72.5-72.6	50/1"						Dense, crystalline, gray BASALT.
	S-16	77.5-77.8	50/3"						Dense, crystalline, dark gray BASALT.
B-4	S-1	2.5-5.0	Push	24					Very firm, mottled brown, clayey SILT with scattered rocks and grass stems.
	S-2	7.5-10.0	Push	29	39	28	11		Firm, light brown, slightly clayey sandy SILT - micaceous.
	S-3	12.5-15.0	Push	30	45	27	18		Firm, mottled light brown to yellow brown, clayey SILT with diagonal slickensides at bottom of sample - fractured. TOP SLIDE ZONE.
	S-4	17.5-20.0	Push	31	46	27	19		Very firm, mottled gray-brown, greenish cast, CLAY with abundant slickensides and fractures @ 30-60°. Scattered angular coarse SAND and Pebbles. SLIDE ZONE.
	S-5	22.5-25.0	Push	40 35	53	29	24		Top 0.2 feet: Soft, mottled green brown, CLAY with horizontal banding. Fractured. Bottom 1.8 feet: Very firm brown silty CLAY with several diagonal fractures - 45-60°. SLIDE ZONE.
	S-6	27.5-30.0	Push	34	42	25	17		Soft to firm, very clayey SILT - occasional fractures - no slickensides.

0-406

Sheet 4 of 9.

TABLE III SUMMARY OF TEST DATA

Boring No.	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits			Other Tests	Sample Classification
					LL	PL	PI		
B-4 CONTINUED									
	S-7	30.0-32.5	Push	35	42	33	9		Firm, medium brown, clayey SILT - uniform texture throughout sample - no apparent fractures.
	S-8	32.5-37.0	Push to refusal	23	39	28	11		Firm, brown, clayey SILT - no apparent fractures.
	S-9	34.5-39.8	Push	27	44	21	23		Very firm, mottled brown, CLAY with scattered iron staining - fractured in bottom 2-inches.
	S-10	37.3-39.8	Push	37	54	32	22		Firm, brown, very clayey SILT or silty CLAY with scattered iron shot - no evidence of disturbance.
	S-11	40.0-42.5	Push	36	50	32	18		Firm, brown, very clayey SILT with scattered iron streaks and shot. Slickensides on random vertical fractures in bottom 0.5 feet.
	S-12	42.5-45.0	Push	36	58	41	17		Top 3 inches: Firm, brown clayey SILT or silty CLAY. Base of Portland SILT. Bottom 12 inches: Very mottled, reddish and yellow brown, clayey SILT - fractured (decomposed Basalt).
	S-13	45.0-47.0	Push to refusal	45	66	46	20		Very firm, very mottled reddish brown and yellow brown, gray near bottom, clayey SILT. Fractured, appears to be badly disturbed (decomposed Basalt).
	S-14	47.0-49.0	Push to refusal	45	55	39	16		Hard, very firm, very mottled red, brown, gray, banded, clayey SILT - fractured - 70-90° with slickensides.

	S-13	45.0- 47.0	Push to refusal	45	66	46	20		Very firm, very mottled reddish brown and yellow brown, gray near bottom, clayey SILT. Fractured, appears to be badly disturbed (decomposed Basalt).
	S-14	47.0- 49.0	Push to refusal	45	55	39	16		Hard, very firm, very mottled red, brown, gray, banded, clayey SILT - fractured - 70-90° with slickensides.
	S-15	52.5- 54.0	4,6,11						Stiff, mottled brown with yellow specks, clayey SILT or silty clay with occasional hard pea size rock fragments (decomposed Basalt).
	S-16	57.5- 59.0	4,9,11						Very stiff, mottled brown, silty CLAY or clayey SILT with scattered angular decomposed rock fragments containing amygdaloids of a yellow mineraloid.
	S-17	62.5- 64.0	4,6,10						Very stiff, gray brown, clayey SILT with yellow specks and iron staining. Common slickensides (decomposed Basalt - has much of textural characteristics of unweathered Basalt).
	S-18	67.5- 69.0	8,9,12						Hard, gray with iron stains, slightly clayey sandy SILT or very fine sand with yellow mineraloids (decomposed Basalt).
	S-19	72.5- 74.0	19,23, 24						Hard, gray brown, sandy SILT or silty very fine SAND (decomposed Basalt).
	S-20	77.5- 79.0	9,10,11						Stiff, very mottled brown black yellow, CLAY with mixed types of decomposed rock fragments. Probable disturbed zone.
	S-21	82.5- 84.0	11,19, 28						Hard, gray, silty very fine SAND with scattered yellow mineraloids (decomposed Basalt).

0-406

TABLE III SUMMARY OF TEST DATA

Sheet 5 of 9.

Boring No.	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits			Other Tests	Sample Classification
					LL	PL	PI		
B-4 CONTINUED									
	S-22	87.5-89.0	21,30,41						Dense, gray with iron stains, sandy SILT or silty very fine SAND (weathered Basalt).
	S-23	92.5-93.0	62/6"						Dense, reddish brown, vesicular weathered BASALT.
	S-24	97.5-98.4	29,63/5"						Dense, red and brown, weathered BASALT. Fractures horizontal to 70°, vesicular to amygdaloidal.
B-5	S-1	2.5-4.0	2,3,4	23	40	27	13		Firm, mottled rust brown, slightly clayey SILT, micaceous.
	S-2	7.5-9.0	4,4,5	29					Firm, brown, fine sandy SILT with some mica and clay.
	S-3	12.5-14.0	3,4,4	30	58	24	34		Firm rust brown, very clayey SILT or silty CLAY.
	S-4	17.5-19.0	2,2,4	30					Firm, light brown, clayey SILT.
	S-5	22.5-24.0	3,4,6	49	68	41	27		Firm, mottled dark gray-brown, clayey SILT with scattered yellow mineraloids (decomposed Basalt).
	S-6	27.5-29.0	3,5,6	46					Firm, very mottled rust brown with manganese stains, clayey SILT (decomposed Basalt).
	S-7	32.5-34.0	6,9,13	45					Stiff, mottled rust brown, clayey SILT with scattered yellow mineraloids (decomposed Basalt).
	S-8	37.5-							

		29.0	3,5,6	46					Firm, very [illegible] manganese stains, clayey SILT (decomposed Basalt).
	S-7	32.5- 34.0	6,9,13	45					Stiff, mottled rust brown, clayey SILT with scattered yellow mineraloids (decomposed Basalt).
	S-8	37.5- 39.0	6,11,13	37					Hard, mottled dark brown to black and yellow, clayey SILT. Sample appears to be about 80 percent angular rock fragments in a matrix of clay (decomposed Basalt).
	S-9	42.5- 44.0	9,10,11	34					Very stiff, brownish gray, clayey SILT with scattered hard angular Basalt fragments up to 1.5 inches (decomposed Baslat).
	S-10	47.5- 49.0	12,13, 15	32					Hard, gray brown, rust stained, sandy SILT or silty very fine SAND: increased moisture (decomposed Basalt).
	S-11	52.5- 54.0	7,24,31	25					Hard, gray and gray brown, rust stained, silty SAND with scattered Basalt fragments: increased moisture (decomposed Basalt).
	S-12	56.0- 57.5	7,8,12	29					Very stiff, gray brown, sandy SILT with about 1/2 sample very hard Basalt fragments up to 1.5 inches (decomposed Basalt--possible slide breccia).
	S-13	57.5- 59.0	16,19, 12						Hard, gray, iron stained, sandy SILT with about 1/2 of sample very hard Basalt fragments up to 3/4 inch (decomposed Basalt - possible slide breccia).
	S-14	62.5- 63.5	21,57						Soft to moderately firm, mottled dark gray brown clayey SILT, at times sandy, with scattered hard Basalt fragments. Sample appears to be slide breccia - possible disturbed zone.

TABLE III SUMMARY OF TEST DATA

0-406

Sheet 6 of 9.

Boring No.	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits			Other Tests	Sample Classification
					LL	PL	PI		
B-5 CONTINUED									
	S-15	65.0-65.8	31, 50/3"	39	63	40	23		Hard, mottled gray brown, sandy CLAY. Sample appears to be deeply weathered lithic Tuff (angular rock fragments in a fine matrix).
	S-16	67.5-67.9	100/5"						Dense, gray, vesicular Basalt, weathered with some sandy SILT (decomposed Basalt).
	S-17	70.0-70.3	50/3"						Dense, gray, vesicular Basalt with some weathered zones of silty sand composition.
	S-18	72.5-72.8	50/3"						Dense, mottled brown, weathered BASALT.
	S-19	75.0-75.1	50/1"						Dense, brown, weathered BASALT.
	S-20	77.5-77.8	50/3"						Very dense, gray, weathered vesicular BASALT.
	S-21	80.0-80.1	50/1.5"						Dense, dark gray to black, weathered BASALT with some clayey silt zones.
	B-22	82.5-82.6	50/1"						No recovery.
B-6	S-1	2.5-4.0	6,8,9	34					Very firm, brown, clayey SILT - upper dark brown part of sample may be FILL.
	S-2	7.5-9.0	4,4,5	33					Firm, mottled brown SILT with trace of clay and mica.
	S-3	12.5-14.0	3,4,6	24	42	19	23		Firm, very mottled brown, clayey SILT with dark brown iron nodules and staining.
	S-4	17.9-							

B-6	S-1	2.5-4.0	6,8,9	34					Very firm, [illegible] brown part of sample may be FILL.
	S-2	7.5-9.0	4,4,6	33					Firm, mottled brown SILT with trace of clay and mica.
	S-3	12.5-14.0	3,4,6	24	42	19	23		Firm, very mottled brown, clayey SILT with dark brown iron nodules and staining.
	S-4	17.9-19.0	3,4,5	30					Firm, light brown, clayey SILT with gray streaks. Possible slickensides at 18.5 feet
	S-5	22.5-24.0	4,5,9	26	46	26	20		Very stiff, brown with gray streaks, silty CLAY.
	S-6	27.5-29.0	9,11,13	25	50	23	27		Very stif ttled reddish brown CLAY. Sample appears to contain fragments of brown clay with gray streaks mixed with red clay (possible disturbed zone).
	S-7	32.5-34.0	9,15,18	31					Hard, red CLAY with gray streaks (weathering) appears disturbed.
	S-8	37.5-39.0	5,8,9	34	62	31	31		Very stiff, red CLAY as as above with vertical gray streaks - possible disturbed zone.
	S-9	42.5-44.0	7,14,18						Hard, mottled gray with yellow specks, slightly clayey sandy SILT. Yellow specks are weathered mineraloids (decomposed Basalt).
	S-10	47.5-49.0	27, 50/6"						Dense, mottled gray, weathered BASALT with zones of yellow mineraloids up to 1/2 inch.
	S-11	52.5-54.0	50/6"						Very dense, gray-brown, weathered BASALT.
	S-12	57.5-57.6	50/1"						Very dense, gray-brown, weathered BASALT (wet).

TABLE III SUMMARY OF TEST DATA

0-406
Sheet 7 of 9.

Boring No.	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits			Other Tests	Sample Classification
					LL	PL	PI		
B-7	S-1	2.5-4.0	2,3,4	28					Firm, mottled brown, clayey SILT (possible FILL).
	S-2	7.5-9.0	2,3,3	29					Soft to firm, dark brown and light brown clayey SILT (possible FILL).
	S-3	12.5-15.0	Push	30.5					Firm, rusty-brown, fine sandy SILT with trace of clay.
	S-4	17.5-20.0	Push	33					Medium, rusty-brown fine sandy SILT with organics: clayey toward bottom.
	S-5	22.5-25.0	Push	30 32	46	25	21	$\overline{R}$ Triaxial Tests γ = 120.5	Medium, tan to brown, slightly fine sandy SILT, trace of organics: some pockets of tan clayey SILT.
	S-6	27.5-30.0	Push	29	40	25	15		Very stiff, light brown, clayey fine sandy SILT with organics. Bottom 6 inches: Green, hard, silty fine SAND (decomposed Basalt).
	S-7	32.5-34.0	8,14,18						Hard, brown, clayey SILT or silty clay and light brown-gray, clayey SILT - slickensides @ contact of brown clay and gray clayey silt (possible disturbed zone) (decomposed Basalt).
	S-8	37.5-39.0	7,18,21						Hard, brown-gray and dark gray, clayey SILT with vertical veins of weathered yellow mineraloid (decomposed Basalt).
	S-9	42.5-43.5	12, 51/6"						Hard, brownish gray, sandy clayey SILT with veins of iron stains (decomposed Basalt).
	S-10	47.5-49.0	30,36, 33						Hard, gray, sandy SILT with yellow mineraloids filling veins (decomposed Basal

									with vertical veins of weathered yellow mineraloid (decomposed Basalt).
	S-9	42.5- 43.5	12, 51/6"						Hard, brownish gray, sandy clayey SILT with veins of iron stains (decomposed Basalt).
	S-10	47.5- 49.0	30,36, 33						Hard, gray, sandy SILT with yellow mineraloids filling veins (decomposed Basalt).
	S-11	52.5- 53.9	18,36, 50/5"						Hard, gray with yellow cast, rust stained sandy SILT (decomposed Basalt).
	S-12	57.5- 59.0	20,37, 44						Very hard, gray with rust stains and yellow mineraloids, sandy SILT (moist) (decomposed Basalt).
	S-13	62.5- 64.0	37,33, 44						Very hard, blue gray and brown, silty CLAY with hard weathered rock fragments (possible disturbed zone).
	S-14	67.5- 69.0	10,16, 24	42	56	42	14		Top: Mottled brown, silty CLAY with zones of reddish brown CLAY (possible disturbed zone). Bottom: Gray-brown, weathered, amygdaloidal BASALT.
	S-15	72.5- 74.0	18,27, 34						Hard, gray, sandy clayey SILT with zones of yellow mineraloid (decomposed Basalt).
	S-16	77.5- 78.0	55/6"						Dense, gray brown, weathered BASALT with zones of sandy clayey SILT.
	S-17	82.5- 83.3	40/6, 52/3"						Dense, gray brown, sandy to clayey SILT with scattered dense angular pebble size rock fragments (decomposed Basalt).
	S-18	87.5- 87.7	50/2"						Dense gray weathered BASALT.

0-406

Sheet 8 of 9.

TABLE III SUMMARY OF TEST DATA

Boring No.	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits			Other Tests	Sample Classification
					LL	PL	PI		
B-8	S-1	2.5-4.0	4,4,20						FILL: Gray brown SILT, rock, brick and concrete fragments.
	S-2	7.5-9.0	3,4,7	29	45	23	22		Firm, light brown, clayey SILT.
	S-3	12.5-14.0	2,3,4	31	39	24	15		Firm, mottled brown CLAY with scattered iron shot.
	S-4	17.5-19.0	3,4,5						Stiff, light brown, CLAY with scattered iron shot or weathered sand grains.
	S-5	22.5-24.0	2,3,4	33	50	24	26		Firm, light brown, clayey SILT with gray streaks.
	S-6	27.5-29.0	2,2,3	27	47	20	27		Firm, reddish brown CLAY with scattered weathered sand grains or rock fragments - Helvetia Formation ?
	S-7	32.5-34.0	3,6,7						Stiff, reddish brown CLAY with rounded to subrounded sand grains. Helvetia Formation?
	S-8	37.5-39.0	4,5,6	31	40	26	14		Stiff, light brown, silty CLAY with black streaks that are possibly organic. Fractures @ 70° with slickensides.
	S-9	42.5-44.0	7,9,10	19	36	18	18		Stiff, reddish brown CLAY with rounded fine to medium sand - Helvetia Formation.
	S-10	47.5-49.0	6,9,11	39	69	35	34		Stiff to hard, brick red CLAY with scattered rounded medium sand. Top several inches: disturbed. Bottom 3 inches sample: gray-green, stiff to hard, decomposed Basalt (CLAY).
	S-11	52.5-54.0	9,11,15						Hard, very mottled yellow brown and brown

	S-10	47.5- 49.0	6,9,11	39	69	35	34		Stiff to hard, brick red CLAY with scattered rounded medium sand. Top several inches: disturbed. Bottom 3 inches sample: gray-green, stiff to hard, decomposed Basalt (CLAY).
	S-11	52.5- 54.0	9,11,15						Hard, very mottled yellow brown and brown gray, clayey SILT (decomposed Basalt).
	S-12	57.5- 57.9	50/5"						Dense, brown-gray, weathered BASALT.
	S-13	62.5- 62.7	50/2.5"						Dense, gray weathered BASALT (very hard drilling).
	S-14	67.5- 67.5+	50/0.5"						No sample recovery - probably dense BASALT.
B-8A	S-1	25.0- 27.5	Push	36 44					Firm, brown, clayey SILT with common 25-30° fractures. Slickensides appear on most fracture surfaces.
	S-2	27.5- 30.0	Push	30 46	47	24	23		Stiff, reddish brown to light brown, clayey SILT with scattered iron shot and iron stains.
	S-3	30.0- 32.5	Push	29					Very firm to stiff, mottled reddish brown CLAY with scattered fine to coarse weathered sand and occasional pebbles. Fractures at steep angles with occasional slickensides - Helvetia Formation (?).
	S-4	32.5- 35.0	Push	32	47	27	20		Stiff, brown, clayey SILT.

0-406

TABLE III SUMMARY OF TEST DATA

Sheet 9 of 9.

Boring No.	Sample No.	Depth, feet	Standard Penetration Resistance, blows/6 in.	Natural Water Content, percent	Atterberg Limits			Other Tests	Sample Classification
					LL	PL	PI		
BORING 8A CONTINUED									
	S-5	35.0-37.5	Push	37 24					Firm, mottled gray-brown to uniform brown, very clayey SILT or silty CLAY with random fractures & slickensides @ 45°. A 3-inch thick mottled gray weathered sand layer is present near the middle of the sample.
	S-6	37.5-40.0	Push	38 30	46	30	16		Stiff, brown, slightly fine sandy clayey SILT with iron nodules and iron stains.
	S-7	40.0-42.5	Push	27 40	35	21	14	T	Very stiff, yellow brown becoming reddish brown, clayey SILT.
	S-8	42.5-45.0	Push	42					Top 0.3 feet: Stiff, brick red CLAY with weathered SAND. Bottom 1.5 feet: Hard, mottled gray and brown, silty CLAY with angular rock fragments (decomposed Basalt). Common fractures @ 35-40° with slickensides.
	S-9	45.0-47.5	Push	38					Hard, mottled brown and gray with common iron stains, decomposed BASALT. Fractured @ 30-90° with slickensides.
	S-10	47.5-50.0	Push	39 33					Hard, brownish gray, crumbly friable decomposed BASALT. Fractures at 15-45° at 0.5 - 1 foot spacing with slickensides on some surfaces. Free water on some fractures.
B-9	S-1	2.5-4.0	5,5,7	29	29	24	5		Firm mottled brown gray and dark gray clayey SILT with scattered hard rock fragments - disturbed zone (decomposed

		30.0	Push	33					composed BASAL[illegible] Fractures [illegible] 0.5 - 1 foot spacing with slickensides on some surfaces. Free water on some fractures.
B-9	S-1	2.5-4.0	5,5,7	**29**	29	**24**	5		Firm mottled brown gray and dark gray clayey SILT with scattered hard rock fragments - disturbed zone (decomposed Basalt.
	S-2	7.5-7.7	50/2"						Dense gray, vesicular BASALT.

LEGEND:

γ = In-place wet density in pounds per cubic foot.

$\overline{R}$ = Consolidated-undrained triaxial test with pore pressure measurements.

T = Torsion shear tests.

WATER LEVEL DEPTH IN FEET BELOW GR

OBSERVATION WELL NO.	DEPTH IN FEET	DATE OF READING	4/10	4/14	4/18	4/22	4/29	5/6	5/14	5/19	5/2
B-1 SH	55.5					42.3	DRY	43.5		43.5	43.
DP	83.0					82.3	83.0	82.8		DRY	82
B-2 SH	55.0				32.7	21.5	18.5	18.0		17.7	17
DP	102.7				85.0	75.6	74.0	73.2		74.8	74
B-3 SH	47.5							7.0	7.6	7.7	7
DP	77.0			55.7	55.7	55.5		44.3		42.1	47
B-4 SH	44.5		15.1	15.3	15.5	15.6	15.5	15.8	15.8	15.7	15
DP	98.5		70.7	68.6	69.4	69.7	70.6	70.1	71.3	71.5	71
SI	88.0		56.5	59.0	58.3	57.7	58.7	57.4	56.9	58.7	58
B-5 SH	45.5		41.6	42.7	42.9	40.3	37.2	43.0		42.3	42
DP	80.5		80.0	80.0	80.0	79.8	80.1	DRY		DRY	80
SI	78.0		77.5	80.2	DRY	DRY	DRY	DRY	DRY	DRY	DR
B-6 SH	37.5					DRY	16.3	13.8	13.4	13.5	13
DP	57.5			53.7	54.5	54.4	54.3	54.6	54.7	54.7	54
B-7 SH	55.8			54.9	DRY	55.8	DRY	DRY	DRY	DRY	DR
DP	87.0		75.7	76.9	76.3	77.0	77.3	77.2	77.2	77.3	7
B-8 SH	45.0					33.0	14.9	14.4	14.3	14.4	14
DP	68.1					68.1	DRY	DRY	DRY	DRY	DR
B-9	7.7					DRY	DRY	DRY	DRY	DRY	D

LEGEND

B-1 SH ← BORING LOCATION AT WHICH OBSERVATION WELLS INSTALLE

SH, DP, SI – SYMBOLS INDICATE SHALLOW OBSERVAT

DEEP OBSERVATION WELL, AND SLOPE INDICATOR

IN FEET BELOW GROUND SURFACE

5/6	5/14	5/19	5/23	5/26						
43.5		43.5	43.3	43.3						
82.8		DRY	82.7	82.9						
18.0		17.7	17.7	17.7						
73.2		74.8	74.7	74.8						
7.0	7.6	7.7	7.4	7.6						
44.3		42.1	47.1	50.8						
15.8	15.8	15.7	15.7	15.8						
70.1	71.3	71.5	71.3	71.5						
57.4	56.9	58.7	58.2	57.5						
43.0		42.3	42.8	43.4						
DRY		DRY	80.0	80.0						
DRY	DRY	DRY	DRY							
13.8	13.4	13.5	13.6	13.6						
54.6	54.7	54.7	54.4	54.4						
DRY	DRY	DRY	DRY	DRY						
77.2	77.2	77.3	76.9	77.0						
14.4	14.3	14.4	14.2	14.2						
DRY	DRY	DRY	DRY	DRY						
DRY	DRY	DRY	DRY	TRACE						

VATION WELLS INSTALLED

ATE SHALLOW OBSERVATION WELL,
AND SLOPE INDICATOR CASING

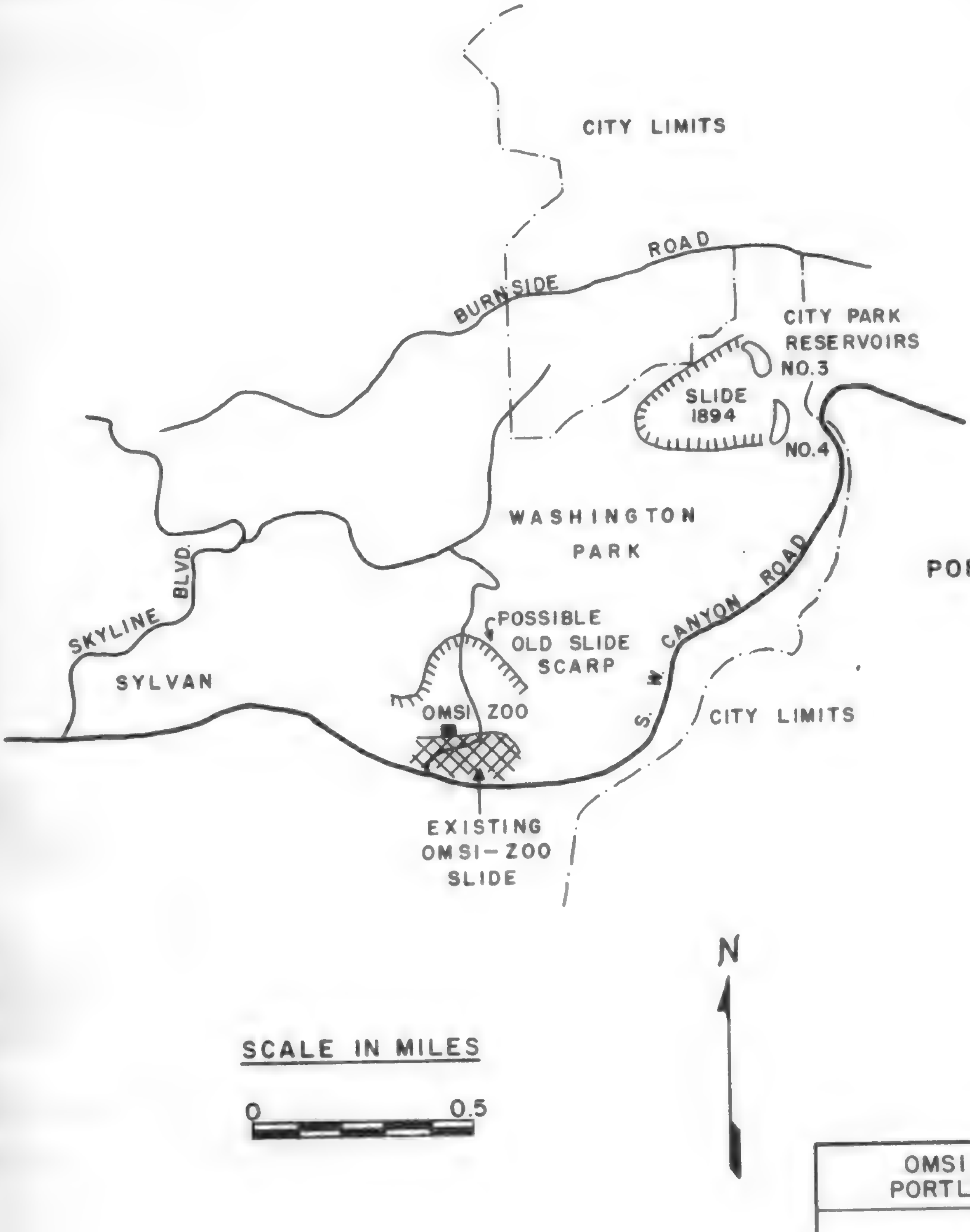
OMSI – ZOO SLIDE
PORTLAND, OREGON

SUMMARY OF WATER
LEVEL READINGS

0-406 MAY, 1969

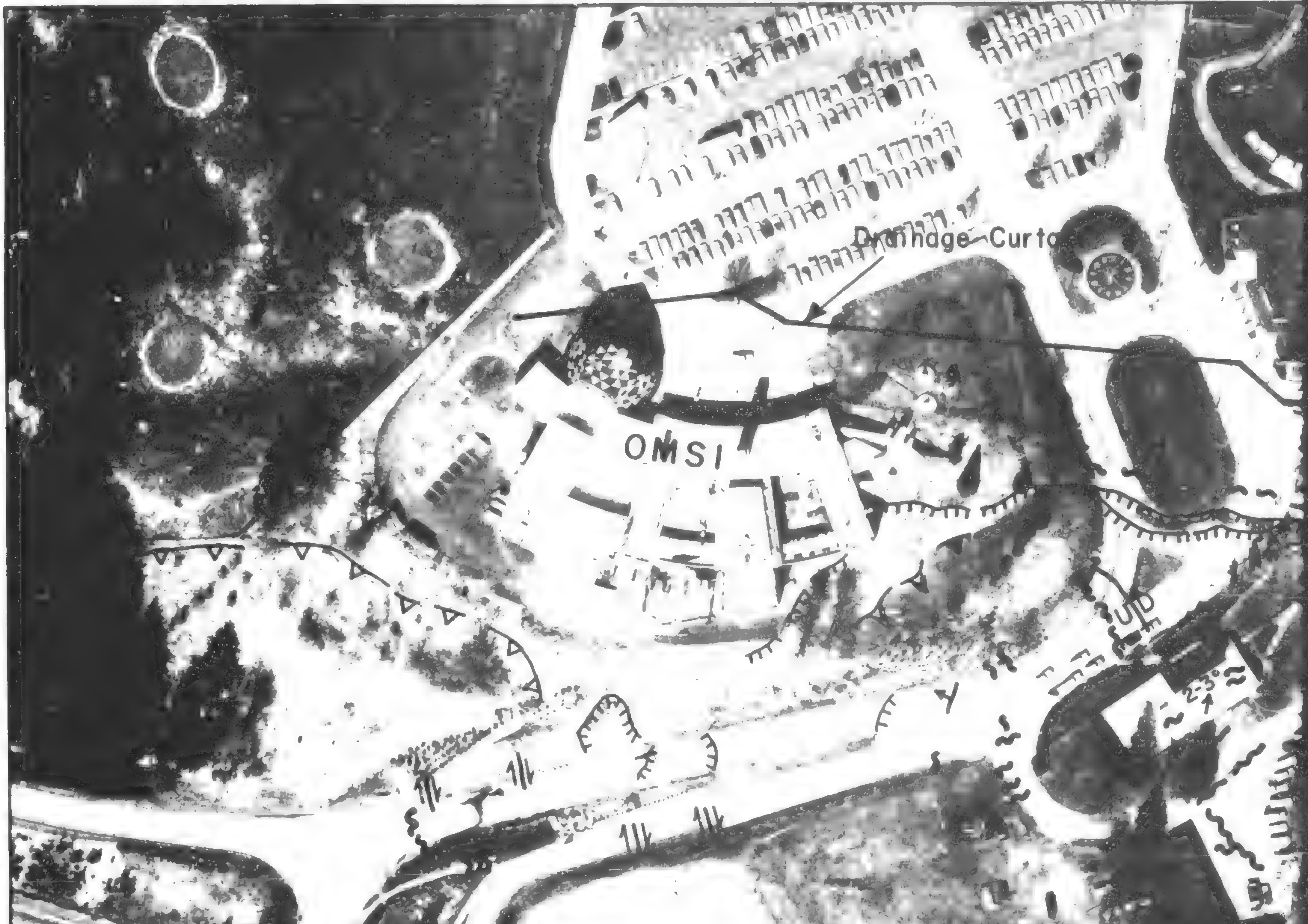
SHANNON & WILON, INC.
PORTLAND, OREGON

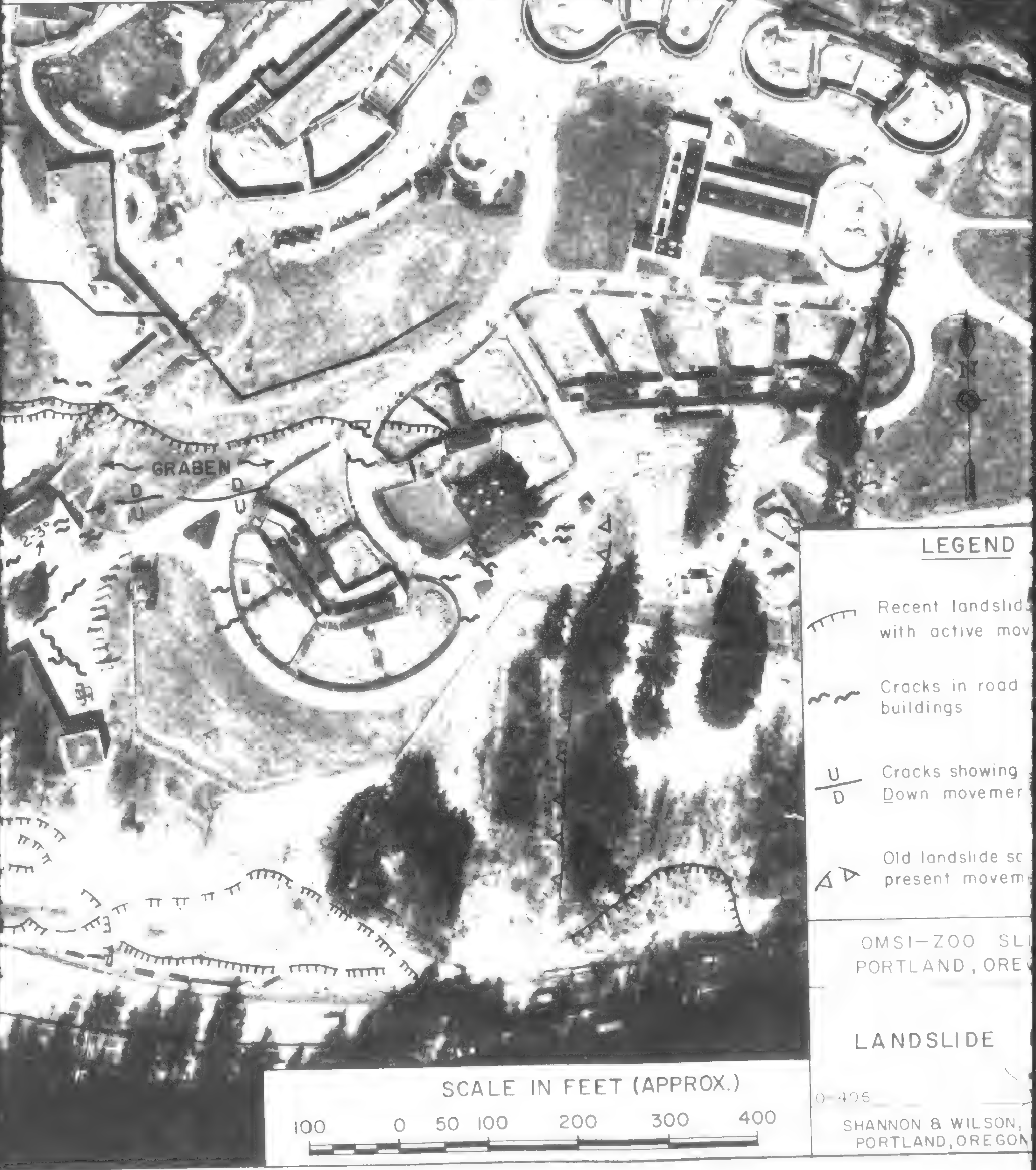
TABLE IV

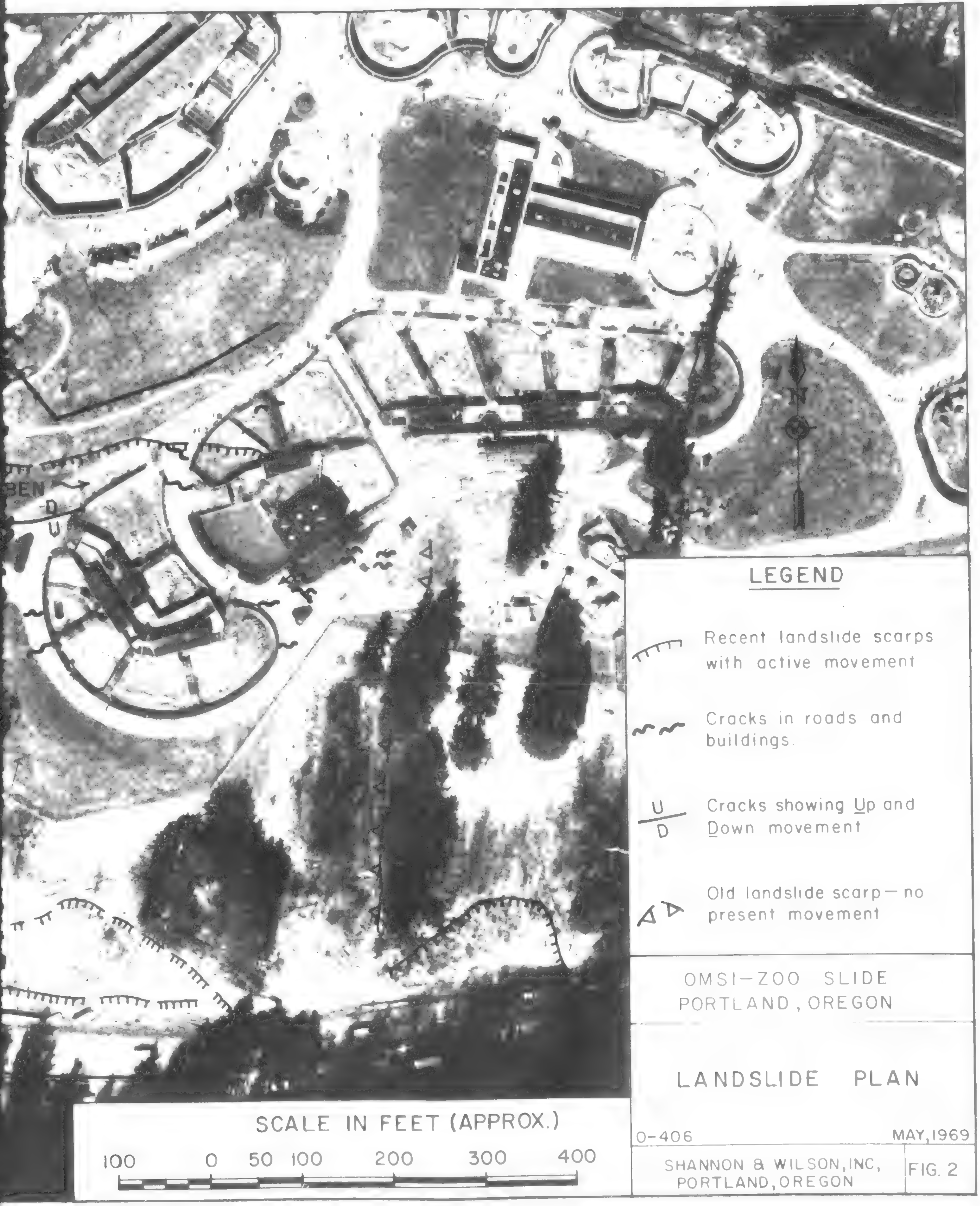


CITY LIMITS
BURNSIDE ROAD
CITY PARK RESERVOIRS
NO.3
SLIDE 1894
NO.4
WASHINGTON PARK
PORTLAND
SKYLINE BLVD.
POSSIBLE OLD SLIDE SCARP
S. W. CANYON ROAD
SYLVAN
OMSI ZOO
CITY LIMITS
EXISTING OMSI-ZOO SLIDE
N
SCALE IN MILES
0
0.5

OMSI–ZOO SLIDE PORTLAND, OREGON	
VICINITY MAP	
0-406	MAY, 1969
SHANNON & WILSON, INC. PORTLAND, OREGON	Fig. 1


Drainage Curta
OMSI


GRABEN
D
U
D
U
2-3°
LEGEND
Recent landslid
with active mov
Cracks in road
buildings
U
D
Cracks showing
Down movemer
Old landslide sc
present movem
OMSI-ZOO SL
PORTLAND, ORE
LANDSLIDE
0-406
SHANNON & WILSON,
PORTLAND, OREGON
SCALE IN FEET (APPROX.)
100
0
50
100
200
300
400
N


BEN
D
U
N
LEGEND
Recent landslide scarps with active movement
Cracks in roads and buildings.
U
D
Cracks showing Up and Down movement
Old landslide scarp — no present movement
SCALE IN FEET (APPROX.)
100
0
50
100
200
300
400

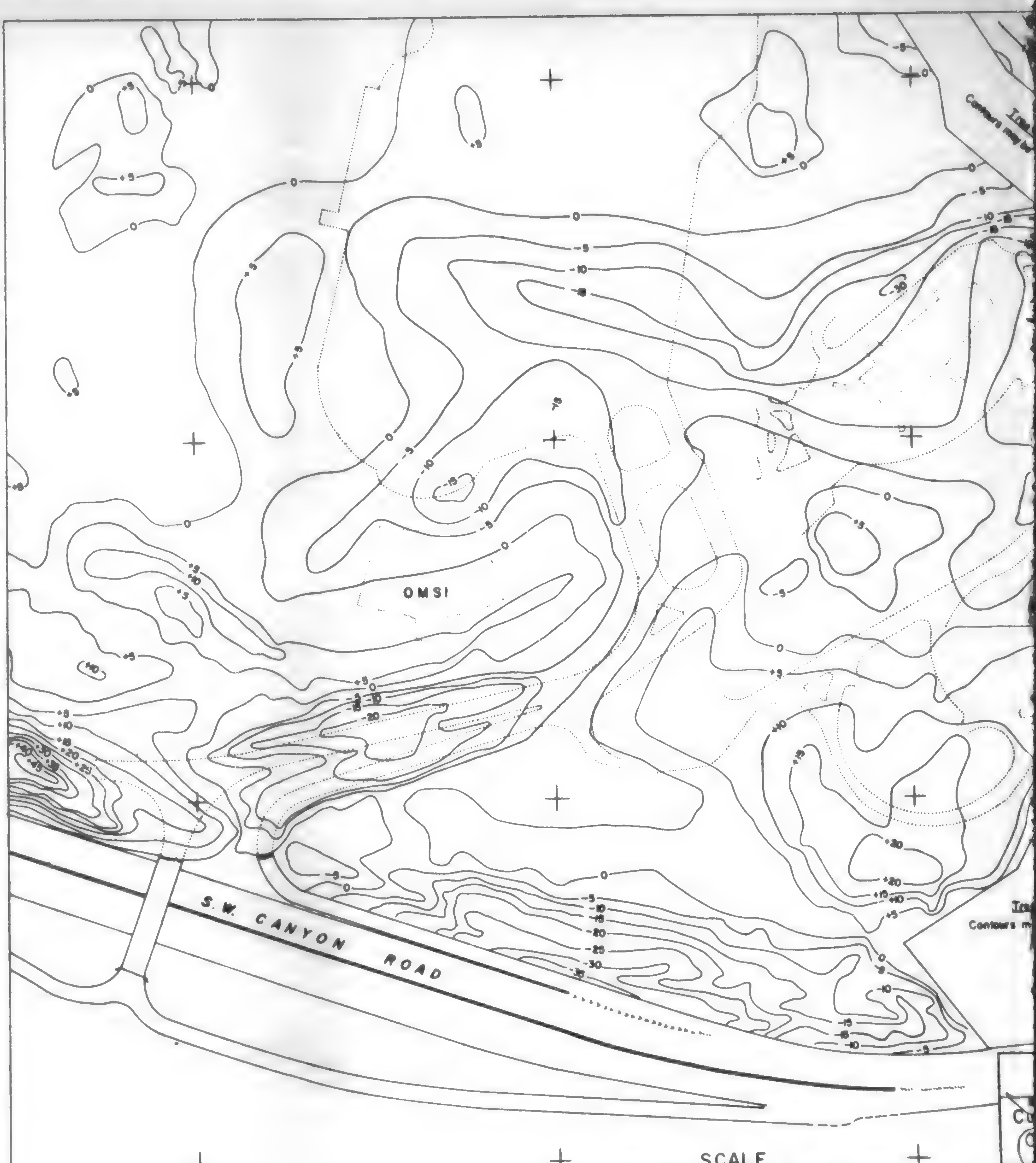
OMSI-ZOO SLIDE
PORTLAND, OREGON

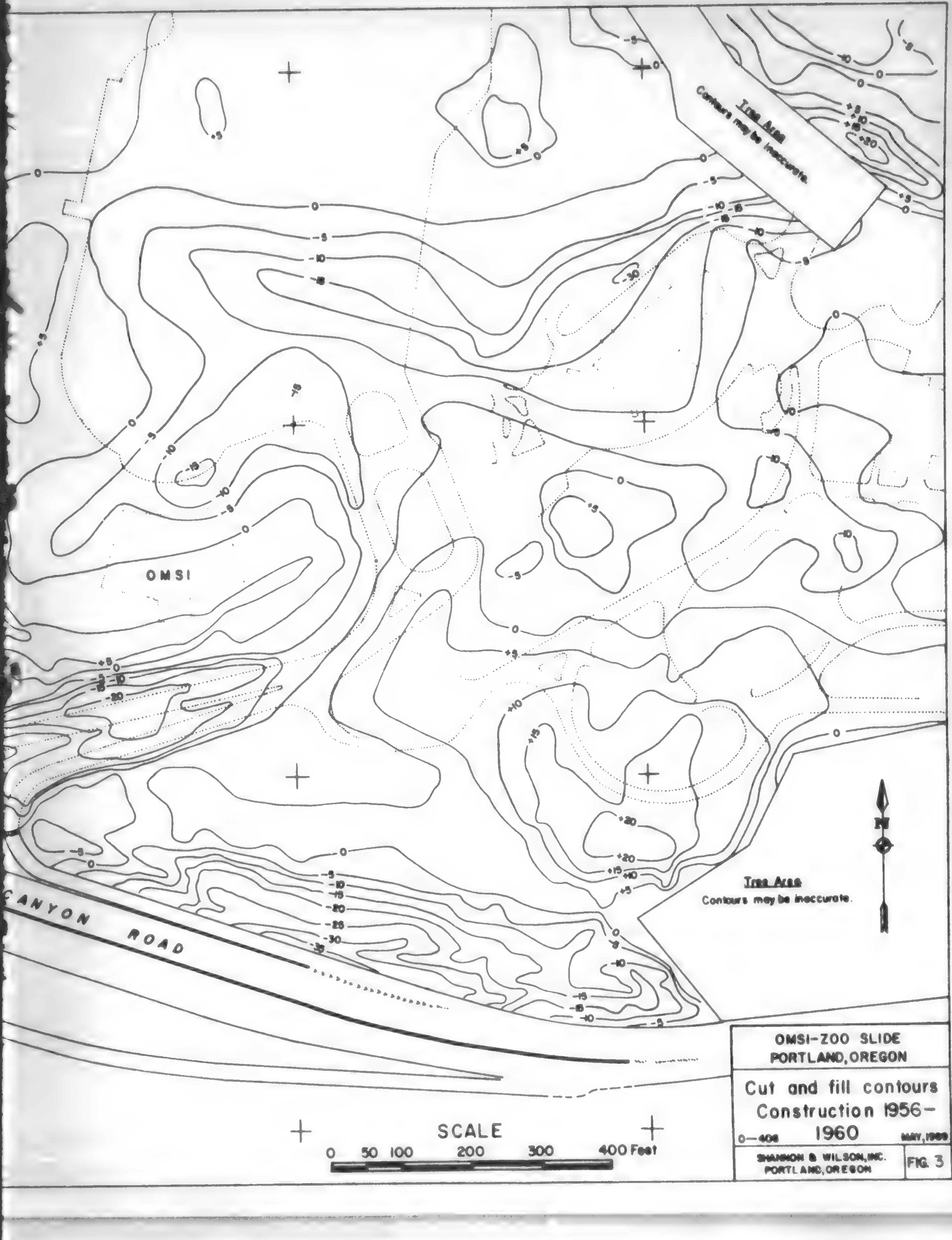
LANDSLIDE PLAN

0-406 MAY, 1969

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 2


OMSI
S. W. CANYON ROAD
SCALE
0 50 100 200 300 400 Feet
Contours m
Contours may b
0
+5
-5
+10
-10
+15
-15
+20
-20
-25
-30
+30
+40
+45



Tree Area
Contours may be inaccurate.
OMSI
CANYON ROAD
Tree Area
Contours may be inaccurate.
N
SCALE
0 50 100 200 300 400 Feet
0
-5
-10
-15
-20
-25
-30
-35
+5
+10
+15
+20

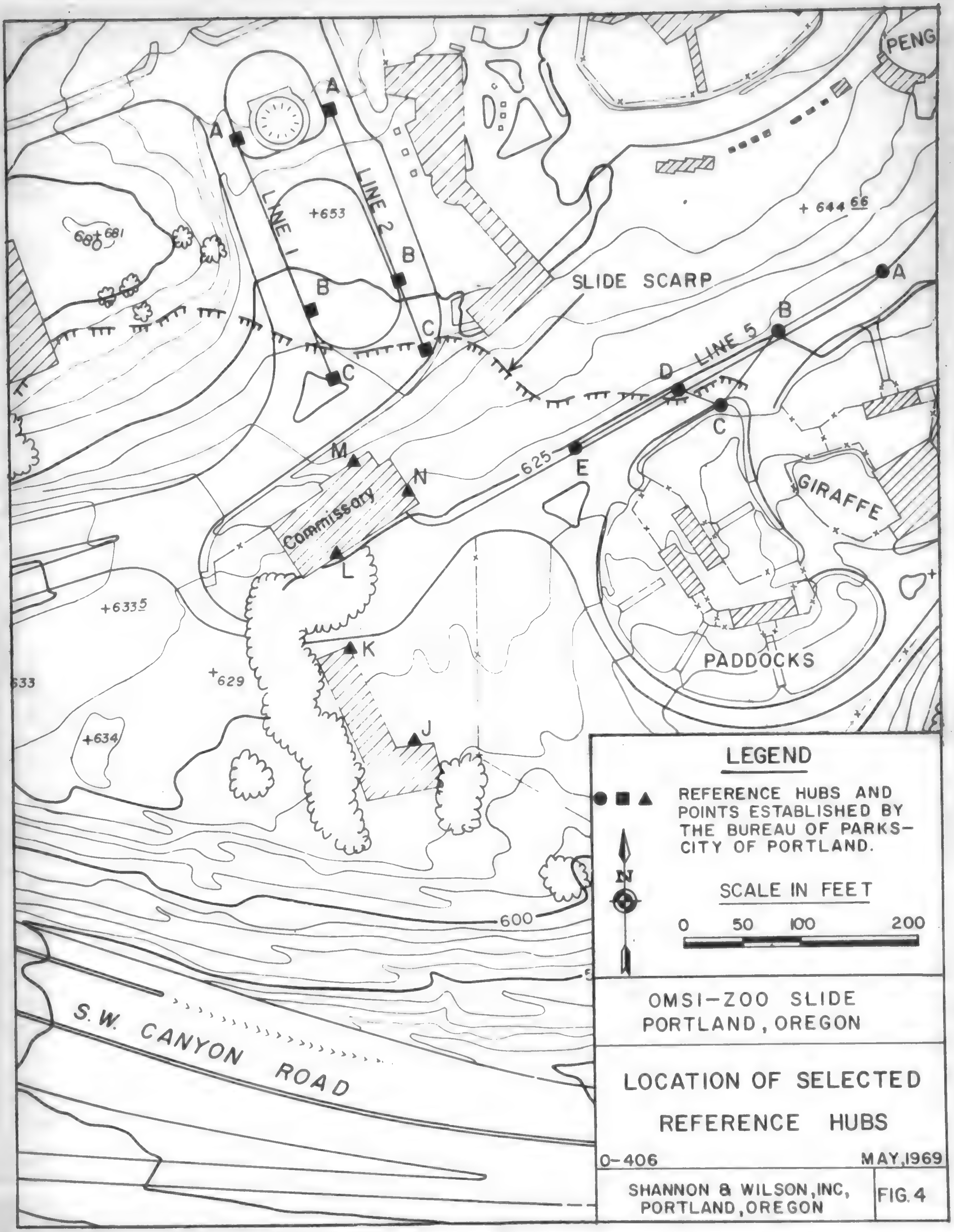
OMSI-ZOO SLIDE
PORTLAND, OREGON

Cut and fill contours
Construction 1956-1960

0—406 MAY, 1969

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 3


PENG
A
A
LINE 1
LINE 2
+653
+644 66
680 681
B
B
C
C
SLIDE SCARP
A
B
LINE 5
D
C
E
625
M
N
Commissary
L
GIRAFFE
PADDOCKS
+633.5
633
+629
+634
K
J
600
S.W. CANYON ROAD
LEGEND
● ■ ▲ REFERENCE HUBS AND POINTS ESTABLISHED BY THE BUREAU OF PARKS-CITY OF PORTLAND.
N
SCALE IN FEET
0
50
100
200

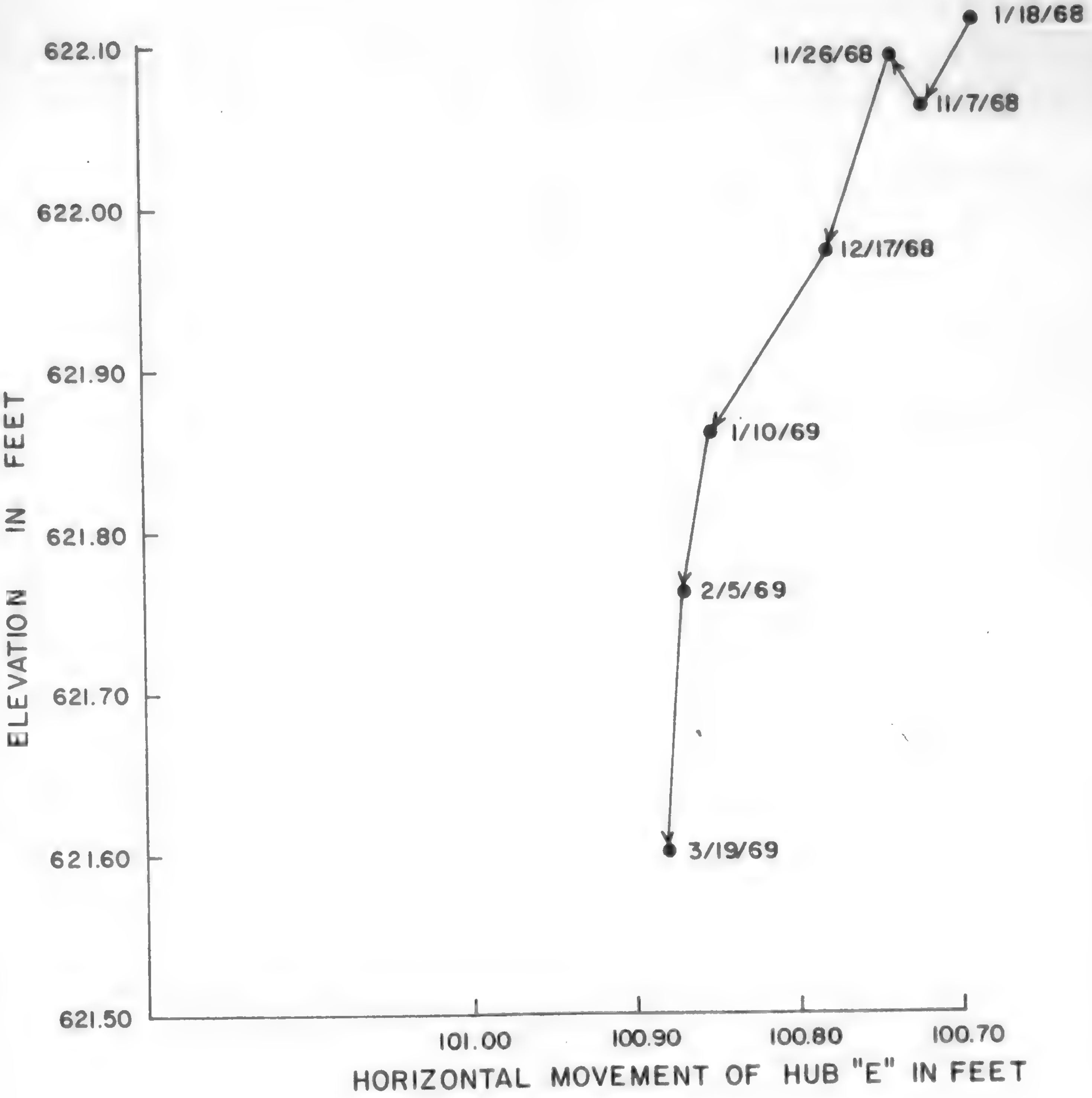
OMSI-ZOO SLIDE
PORTLAND, OREGON

LOCATION OF SELECTED
REFERENCE HUBS

0-406 MAY, 1969

SHANNON & WILSON, INC,
PORTLAND, OREGON

FIG. 4



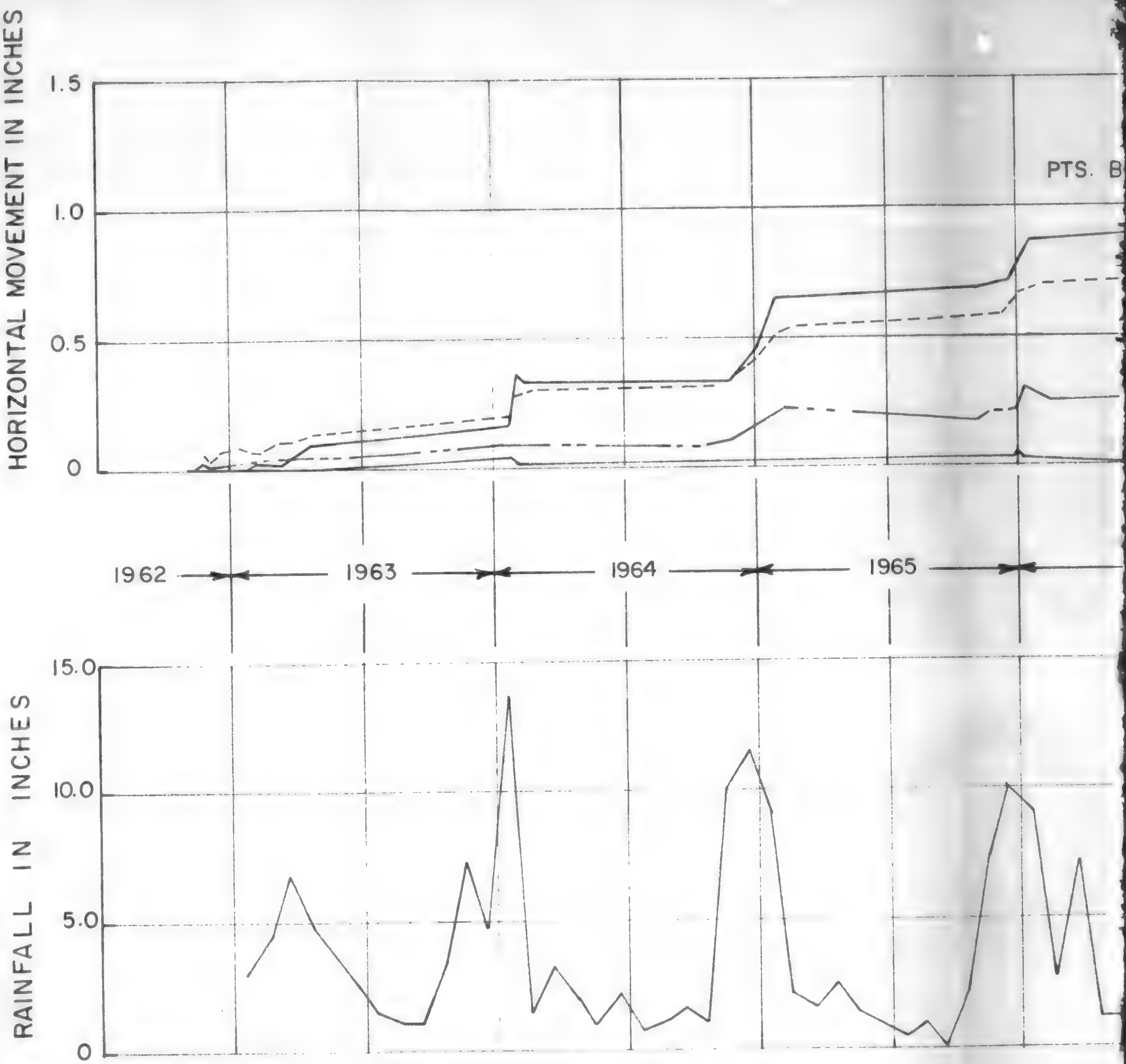
OMSI–ZOO SLIDE
PORTLAND, OREGON

HUB "E": VECTORS OF MOVEMENT

0-406 MAY, 1969

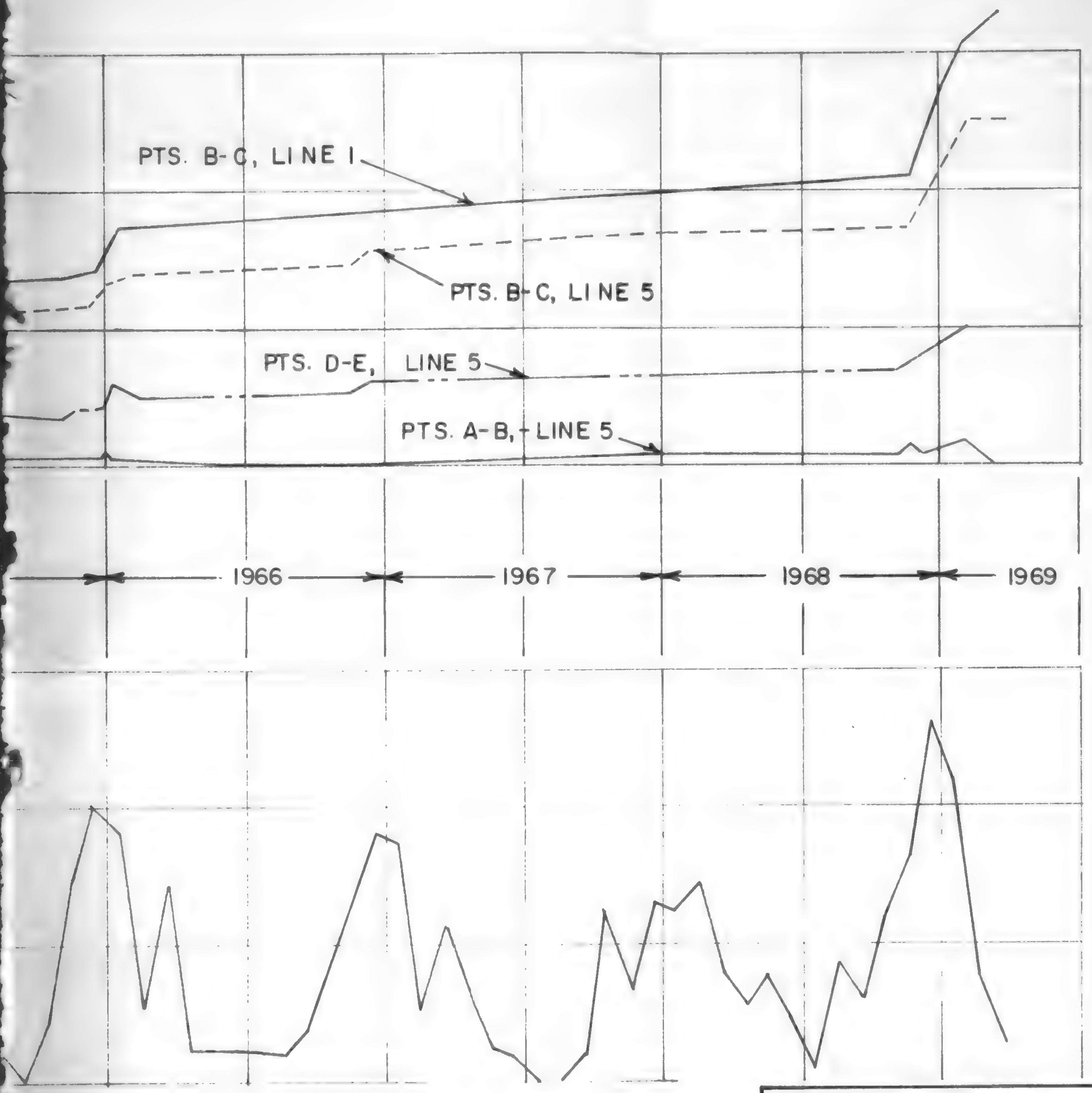
SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 5



NOTES: 1. HORIZONTAL MOVEMENT I
BUREAU OF PARKS SURVE

2. PRECIPITATION DATA
WEATHER BUREAU AT TH
INTERNATIONAL AIRPOR



AL MOVEMENT INFORMATION FROM
OF PARKS SURVEY DATA

ATION DATA OBTAINED BY U.S.
R BUREAU AT THE PORTLAND
ATIONAL AIRPORT.

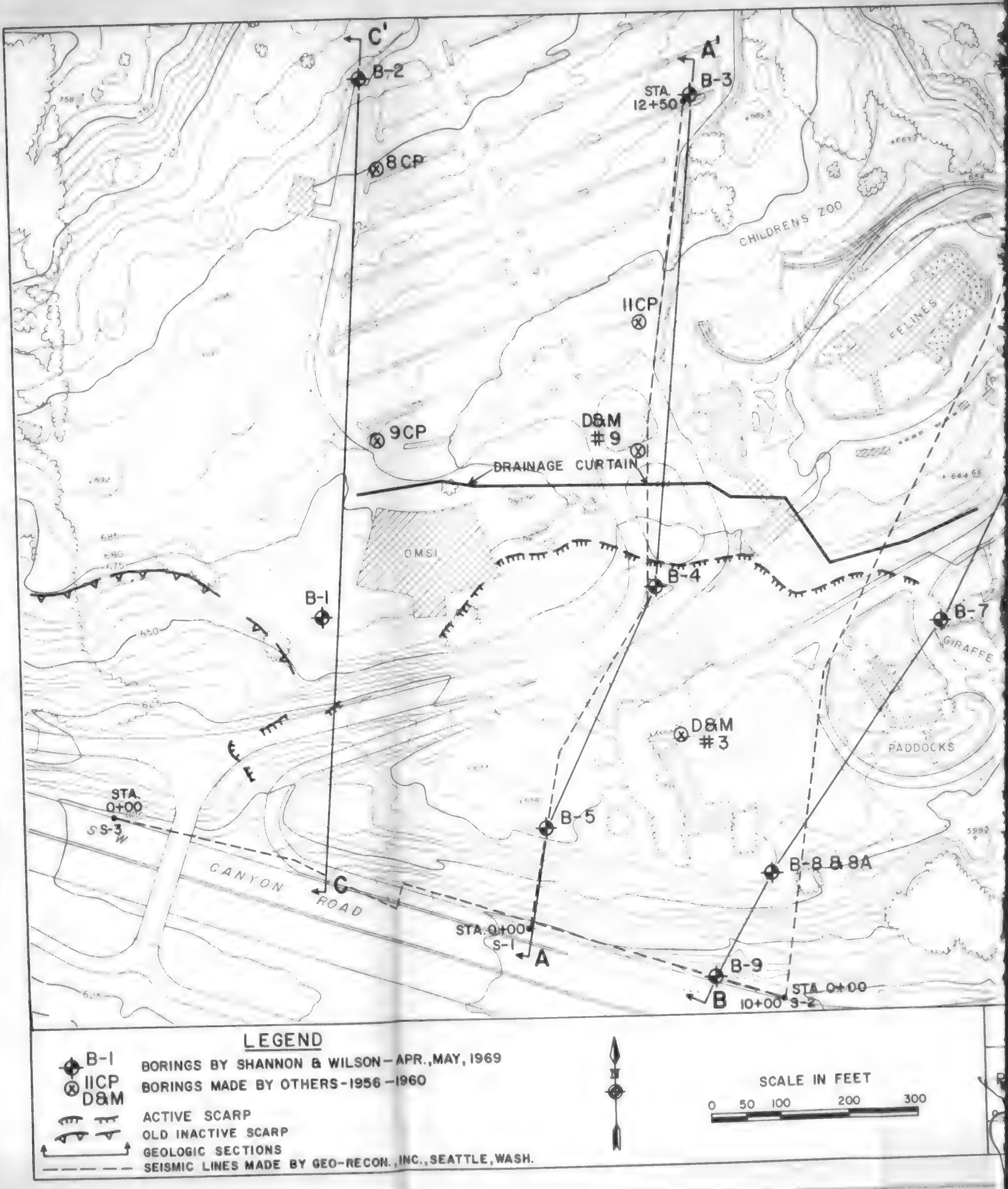
OMSI - ZOO SLIDE
PORTLAND, OREGON

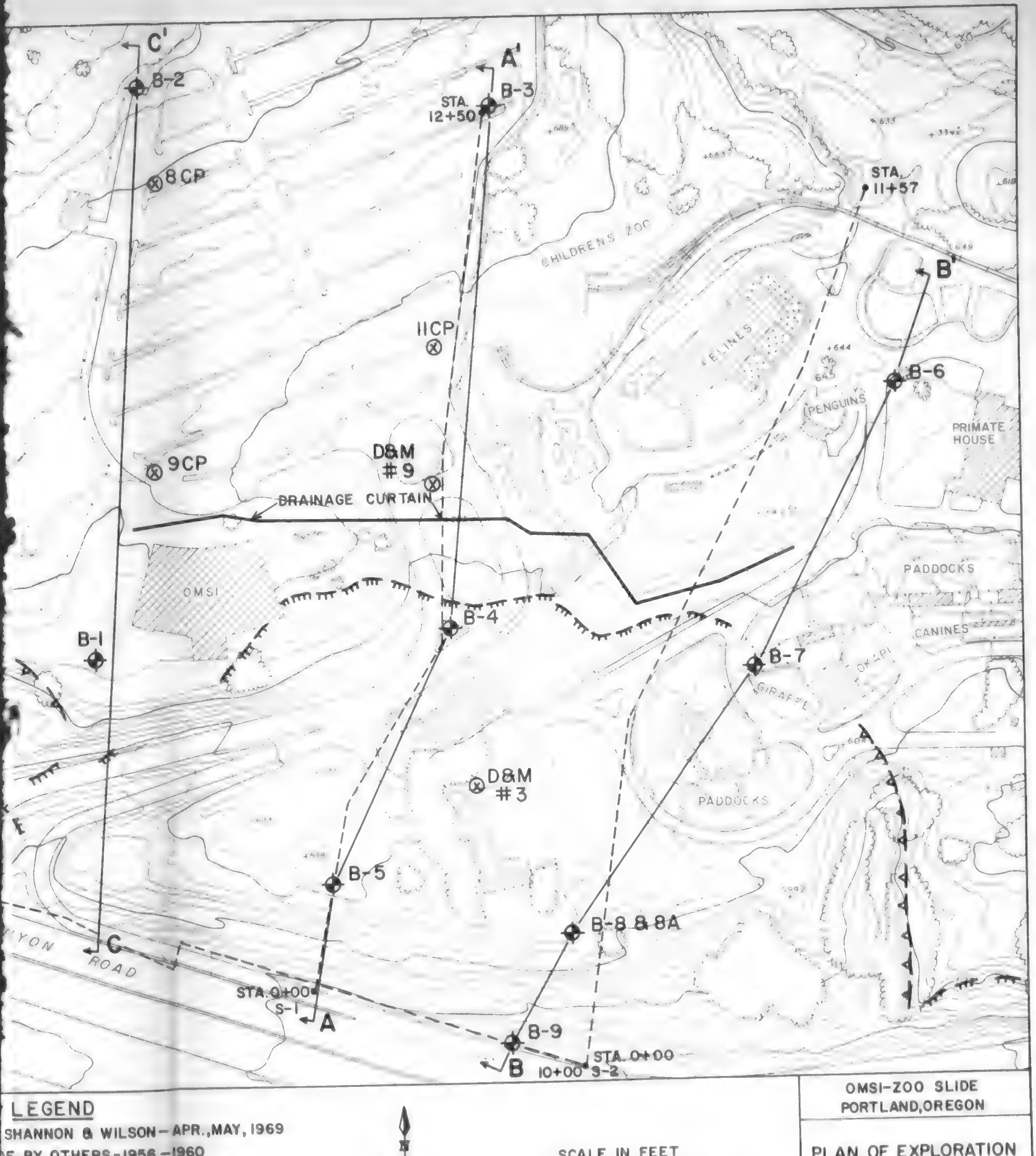
RELATIONSHIP OF
SLIDE MOVEMENT
AND
RAINFALL INTENSITY

0-406 MAY, 1969

SHANNON & WILSON INC.
PORTLAND, OREGON

FIG. 6


C'
B-2
A'
B-3
STA. 12+50
8CP
CHILDRENS ZOO
FELINES
11CP
9CP
D&M #9
DRAINAGE CURTAIN
OMSI
B-4
B-1
B-7
GIRAFFE
D&M #3
PADDOCKS
STA. 0+00
S-3
B-5
B-8 & 8A
CANYON ROAD
C
STA. 0+00
S-1
A
B-9
B
STA. 0+00
10+00 S-2
LEGEND
B-1 BORINGS BY SHANNON & WILSON - APR., MAY, 1969
11CP D&M BORINGS MADE BY OTHERS - 1956 - 1960
ACTIVE SCARP
OLD INACTIVE SCARP
GEOLOGIC SECTIONS
SEISMIC LINES MADE BY GEO-RECON., INC., SEATTLE, WASH.
SCALE IN FEET
0 50 100 200 300


C'
B-2
A'
B-3
STA. 12+50
8CP
STA. 11+57
CHILDRENS ZOO
B'
11CP
FELINES
B-6
PENGUINS
PRIMATE HOUSE
D&M #9
9CP
DRAINAGE CURTAIN
PADDOCKS
OMSI
B-4
CANINES
B-1
B-7
OKAPI
GIRAFFE
D&M #3
PADDOCKS
B-5
B-8 & 8A
C
ROAD
STA. 0+00
S-1
A
B-9
B
STA. 0+00
10+00 S-2

LEGEND
SHANNON & WILSON – APR., MAY, 1969
DE BY OTHERS – 1956 – 1960
RP
SCARP
CTIONS
MADE BY GEO-RECON., INC., SEATTLE, WASH.

SCALE IN FEET
0 50 100 200 300

OMSI-ZOO SLIDE
PORTLAND, OREGON

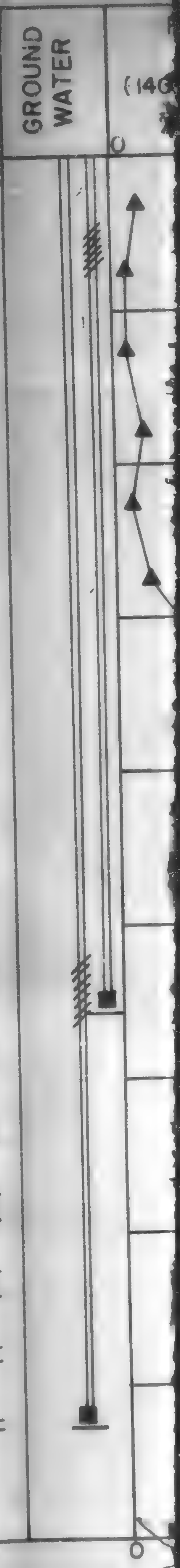
PLAN OF EXPLORATION

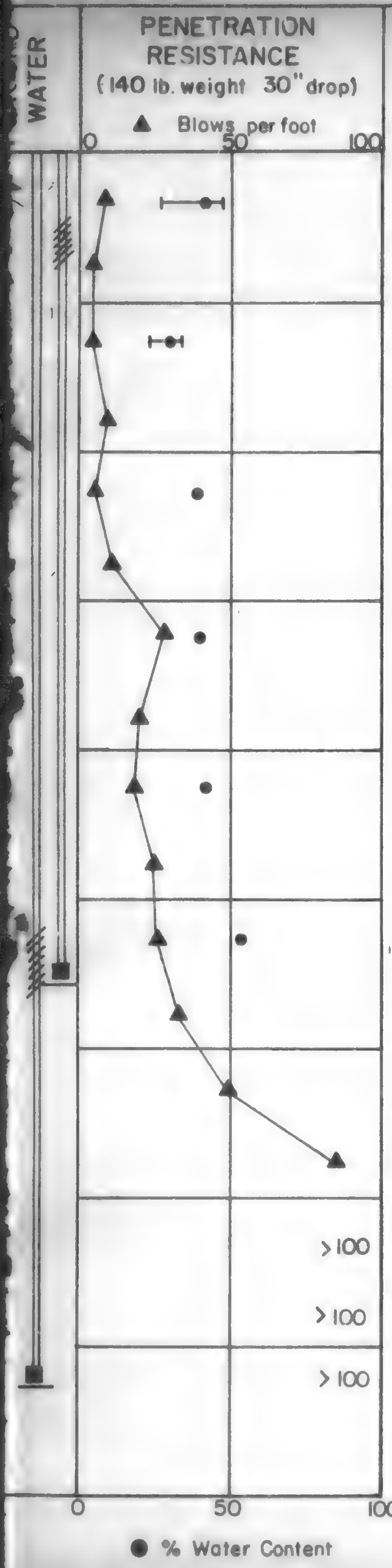
0-406
MAY, 1969

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 7

UNIFIED SOIL CLASSIF.	SOIL DESCRIPTION Surface Elevation 665'	DEPTH-feet	SAMPLES
	Fill: Firm, mottled rust brown, clayey SILT and silty CLAY with scattered angular rock fragments.	0	1 2
	Soft, brown gray, clayey SILT. (PORTLAND SILT FORMATION?)	9	3
	Decomposed basalt: Firm, mottled rust brown, clayey SILT with scattered hard rock fragments.	17	4 5 6
	Decomposed basalt: Hard to stiff, mottled rust brown and gray, clayey SILT becoming sandy SILT and very fine SAND at 52.5 — 54.0 ft. vesicles and veins are filled with a yellow mineraloid.	30	7 8 9 10 11 12
	Weathered basalt: Very hard to dense, brown to gray, friable, crumbly, becomes very dense at 82 ft. yellow mineraloid in vesicles @ 72 ft. (COLUMBIA RIVER BASALT FORMATION)	60	13 14 15 16 17
	Bottom of Boring	83	





LEGEND

I	2" O.D. split spoon sample
II	3" O.D. thin-wall sample
P	Samples pushed
✕	Sample not recovered
▽	Water level
▨	Impervious seal
■	Piezometer

Atterberg limits

Liquid limit

Natural water content

Plastic limit

SLIDE INVESTIGATION
OMSI-ZOO COMPLEX
PORTLAND, OREGON

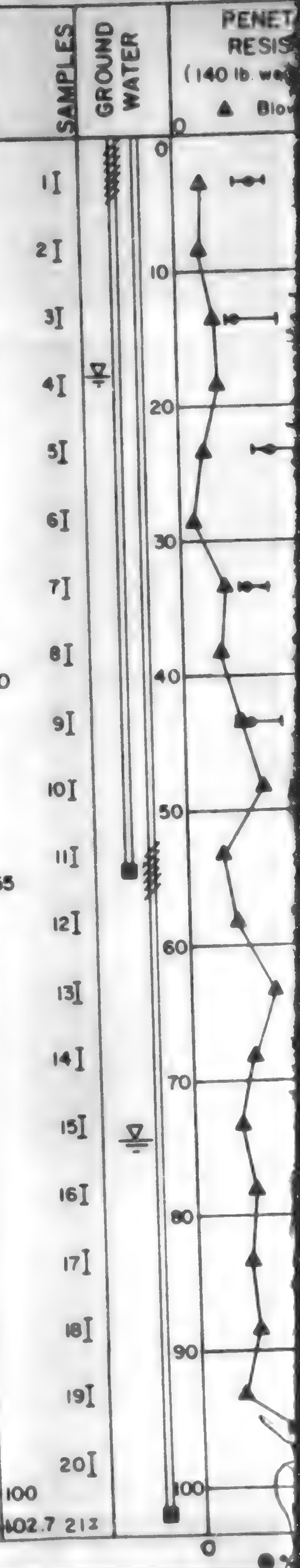
LOG OF BORING
BORING NO. B-1

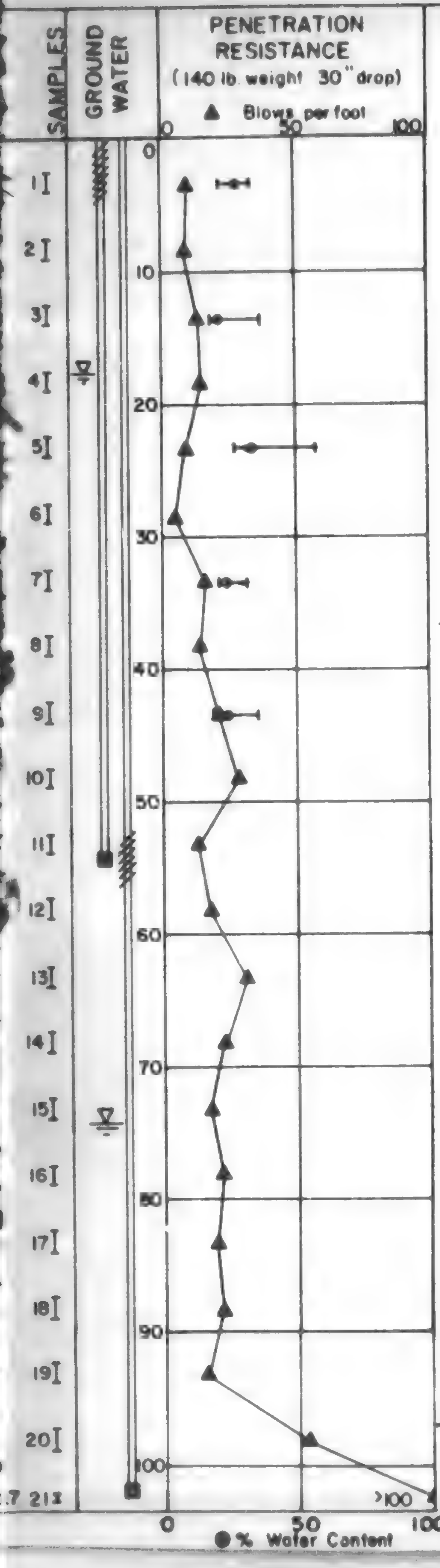
0-406 APR. 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.

FIG. 8

UNIFIED SOIL CLASSIF.	SOIL DESCRIPTION Surface Elevation 758'	DEPTH-feet
	Firm to stiff, mottled rust brown to uniform brown, clayey SILT and silty CLAY. Possible slickensides @ 45° at 22.5-24.0 ft. water bearing @ 27 ft. (PORTLAND SILT FORMATION)	0
	Very stiff, reddish brown to dark brown CLAY with scattered weathered fine to medium SAND. (HELVETIA FORMATION?)	40
	Decomposed basalt: Very mottled rust brown gray brown and purple, clayey SILT becoming sandy SILT. Possible disturbed zone @ 92.5-99 ft. (COLUMBIA RIVER BASALT FORMATION)	55
	Dense weathered basalt	100
		102.7

Bottom of Boring





LEGEND

- I 2" O.D. split spoon sample
- II 3" O.D. thin-wall sample
- P Samples pushed
- ✱ Sample not recovered
- ▽ Water level
- Impervious seal
- ■ Piezometer

Atterberg limits

- Liquid limit
- Natural water content
- Plastic limit

SLIDE INVESTIGATION
OMSI-ZOO COMPLEX
PORTLAND, OREGON

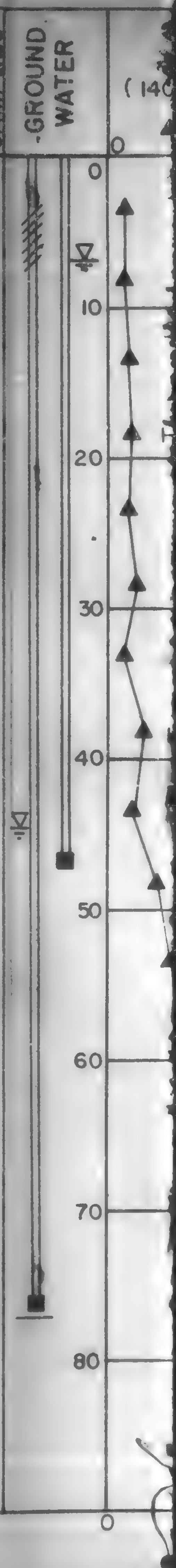
LOG OF BORING

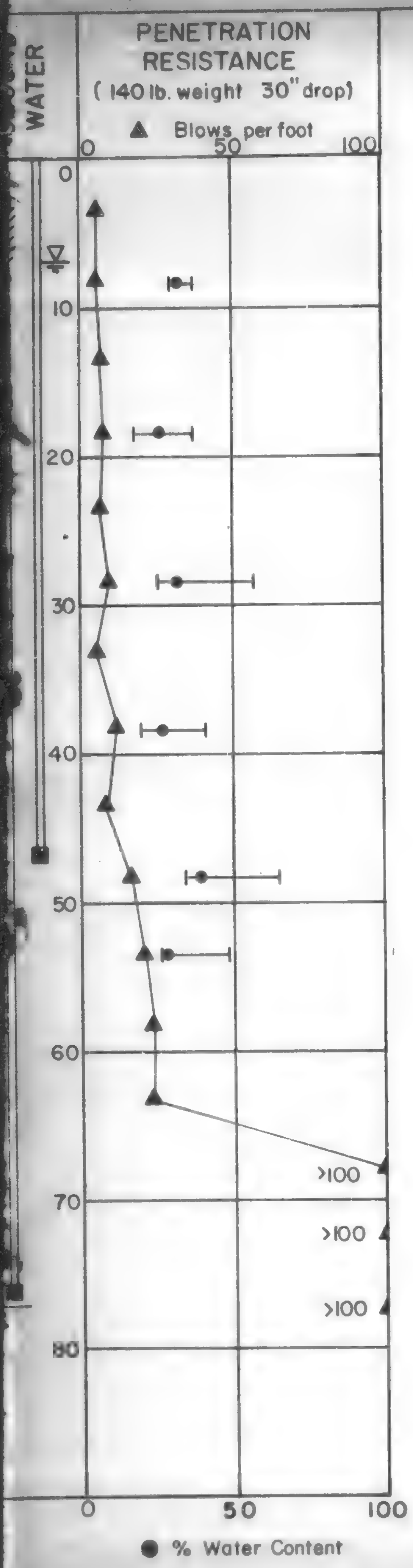
BORING NO. B-2

0-406 APR., 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.

FIG. 9

UNIFIED SOIL CLASSIF.	SOIL DESCRIPTION Surface Elevation 686'	DEPTH-feet	SAMPLES
	Firm to stiff, mottled rust brown to uniform brown, clayey SILT and silty CLAY with scattered iron shot. Locally micaceous. Possible slickensides @ 27.5 ft. (PORTLAND SILT FORMATION)	0	1 2 3 4 5 6 7 8 9 10
	Very stiff, mottled brown CLAY with scattered weathered sand & pebbles. (HELVETIA FORMATION?)	50	11
	Decomposed basalt: Very stiff to hard, clayey SILT with scattered rock fragments.	56	12 13
	Weathered basalt: Dense, brown and gray, crystalline. (COLUMBIA RIVER BASALT FORMATION)	65	14 15
	Bottom of Boring	77.8	16





LEGEND

I 2" O.D. split spoon sample

II 3" O.D. thin-wall sample

P Samples pushed

* Sample not recovered

▽ Water level

Impervious seal

Piezometer

Atterberg limits

Liquid limit

Natural water content

Plastic limit

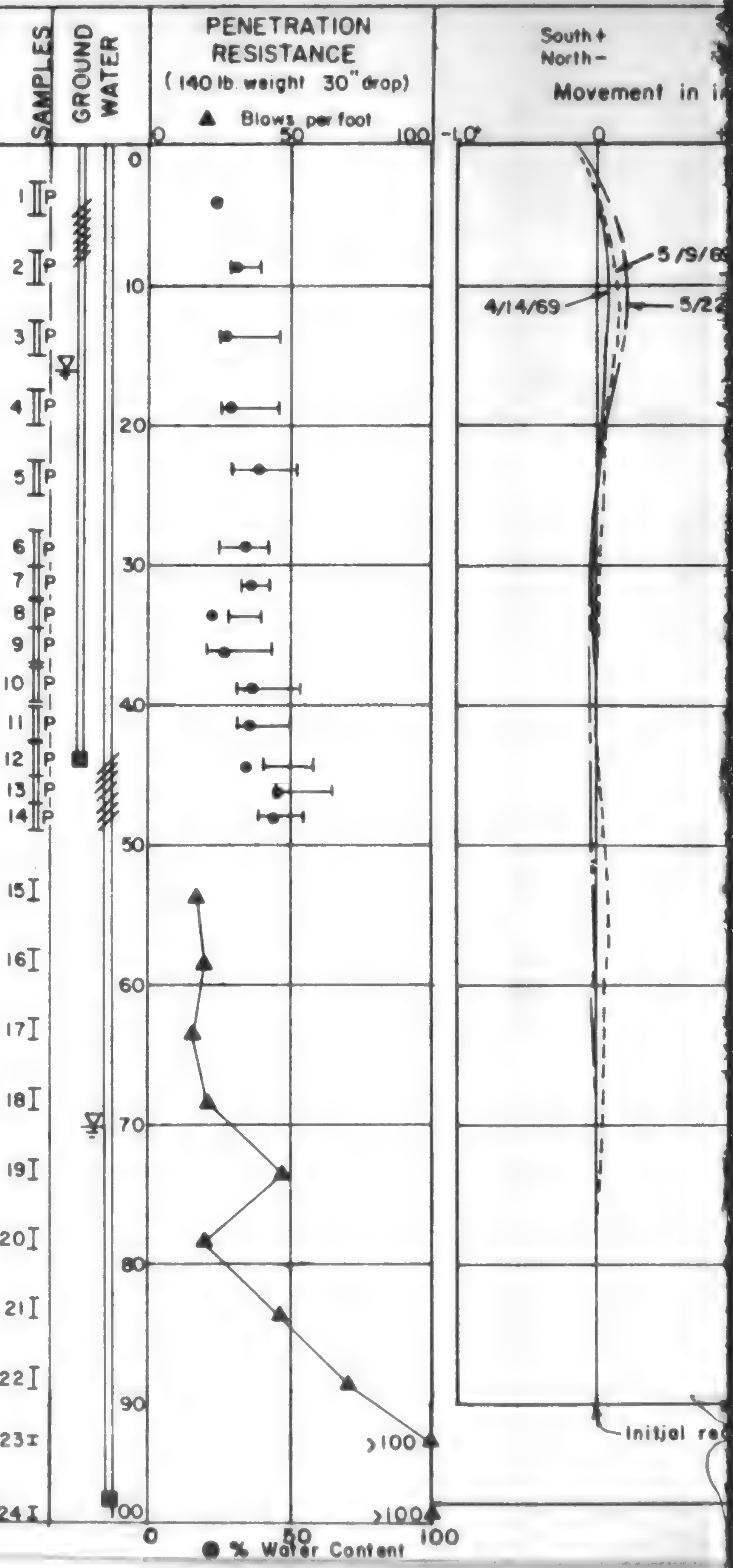
SLIDE INVESTIGATION
OMSI-ZOO COMPLEX
PORTLAND, OREGON

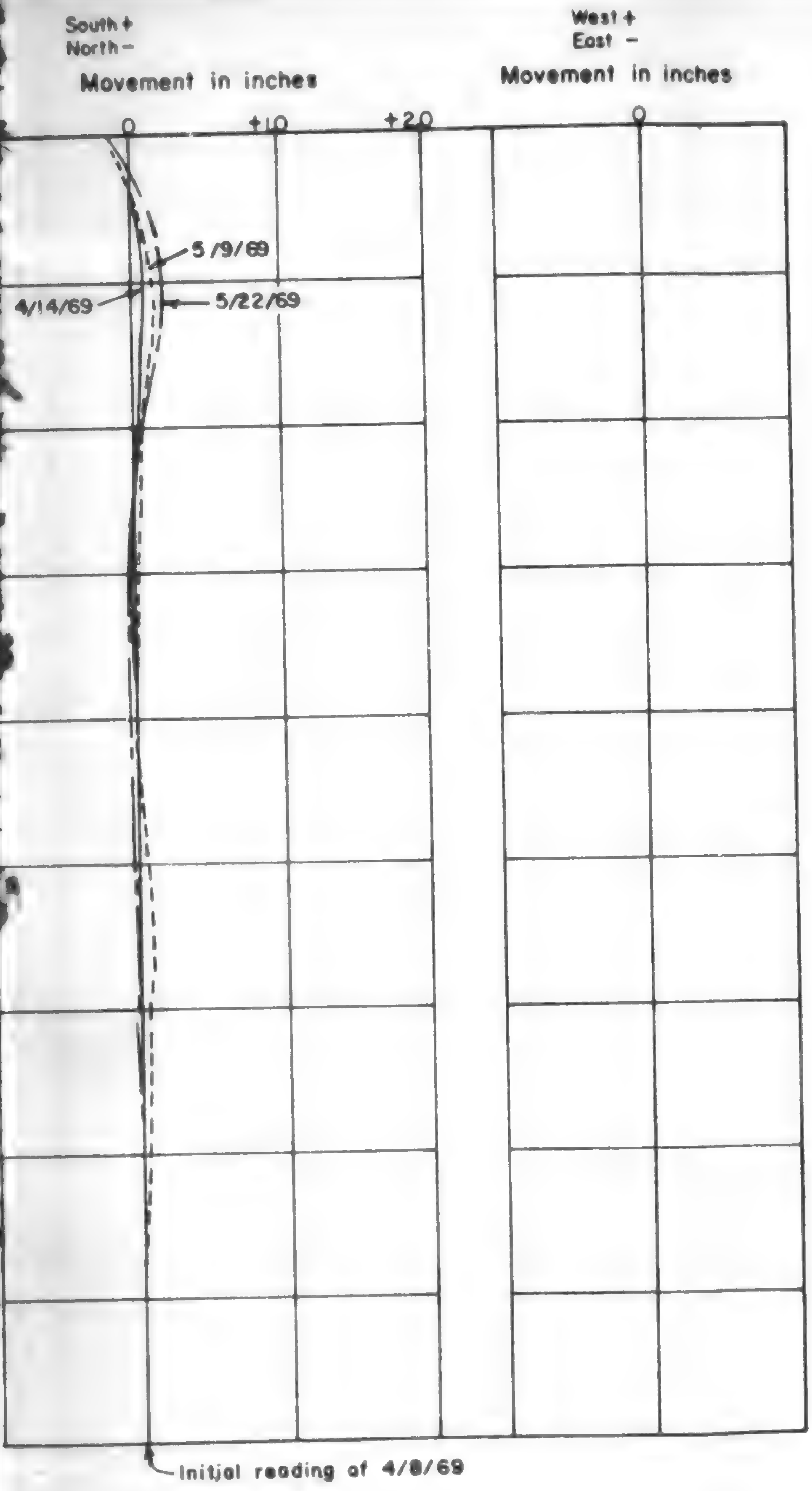
LOG OF BORING
BORING NO. B-3

0-406 APR., 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.

FIG. 10

UNIFIED SOIL CLASSIF.	SOIL DESCRIPTION Surface Elevation 642'	DEPTH-feet
	Very firm to stiff, mottled brown, sandy SILT and silty CLAY. Disturbed zone top is @ 12.5 ft. and extends to bottom of unit. Unit is locally very mottled and multicolored from green to brown, fractures, 15-60°, with slickensides. (PORTLAND SILT FORMATION)	0
	Decomposed basalt: Firm to stiff to hard, very mottled reddish yellow and gray-brown, clayey SILT and silty CLAY with scattered hard rock fragments. Common fractures 40-70° and slickensides throughout. (COLUMBIA RIVER BASALT FORMATION)	42
	Dense, gray brown and reddish brown vesicular, weathered basalt. Fractured. Bottom of Boring	88.5 98.4





LEGEND

I 2" O.D. split spoon sample
II 3" O.D. thin-wall sample
P Samples pushed
* Sample not recovered
▽ Water level
Impervious seal
Piezometer

Atterberg limits
Liquid limit
Natural water content
Plastic limit

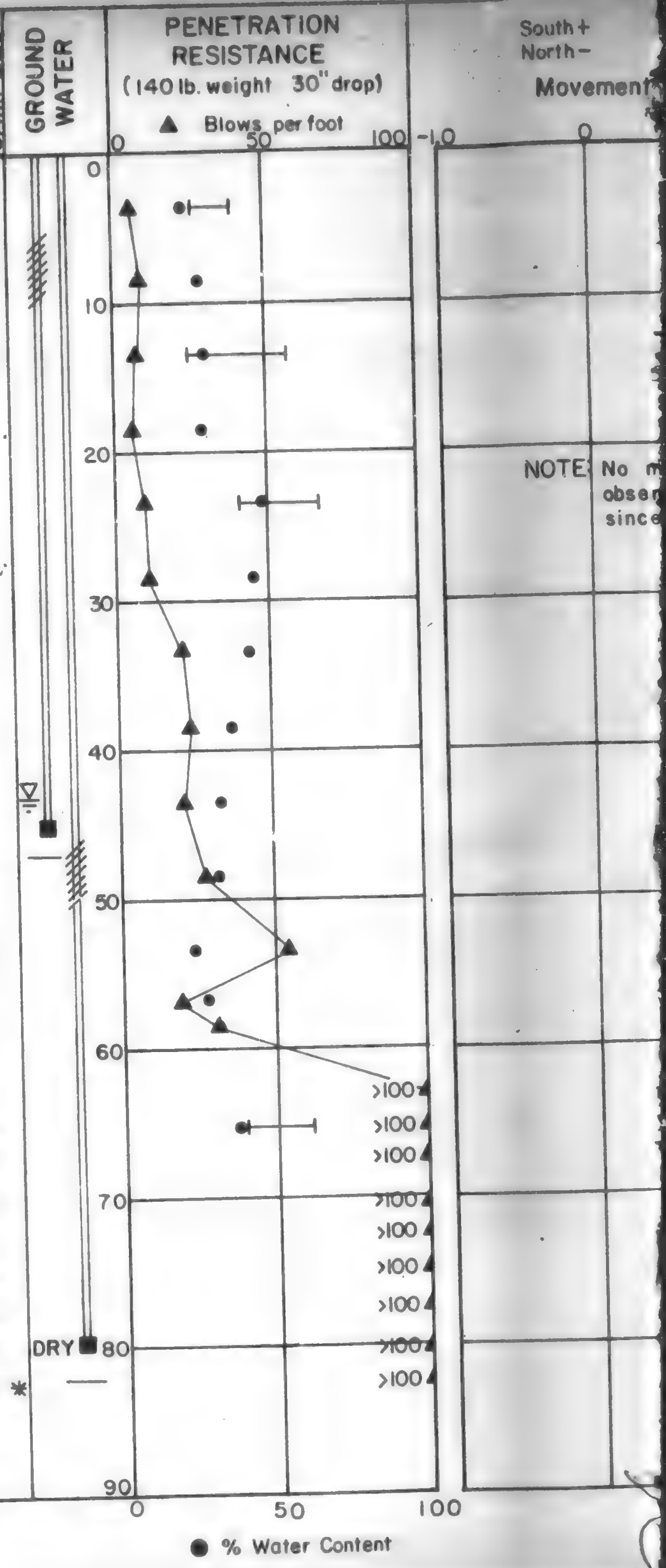
SLIDE INVESTIGATION
OMSI–ZOO COMPLEX
PORTLAND, OREGON

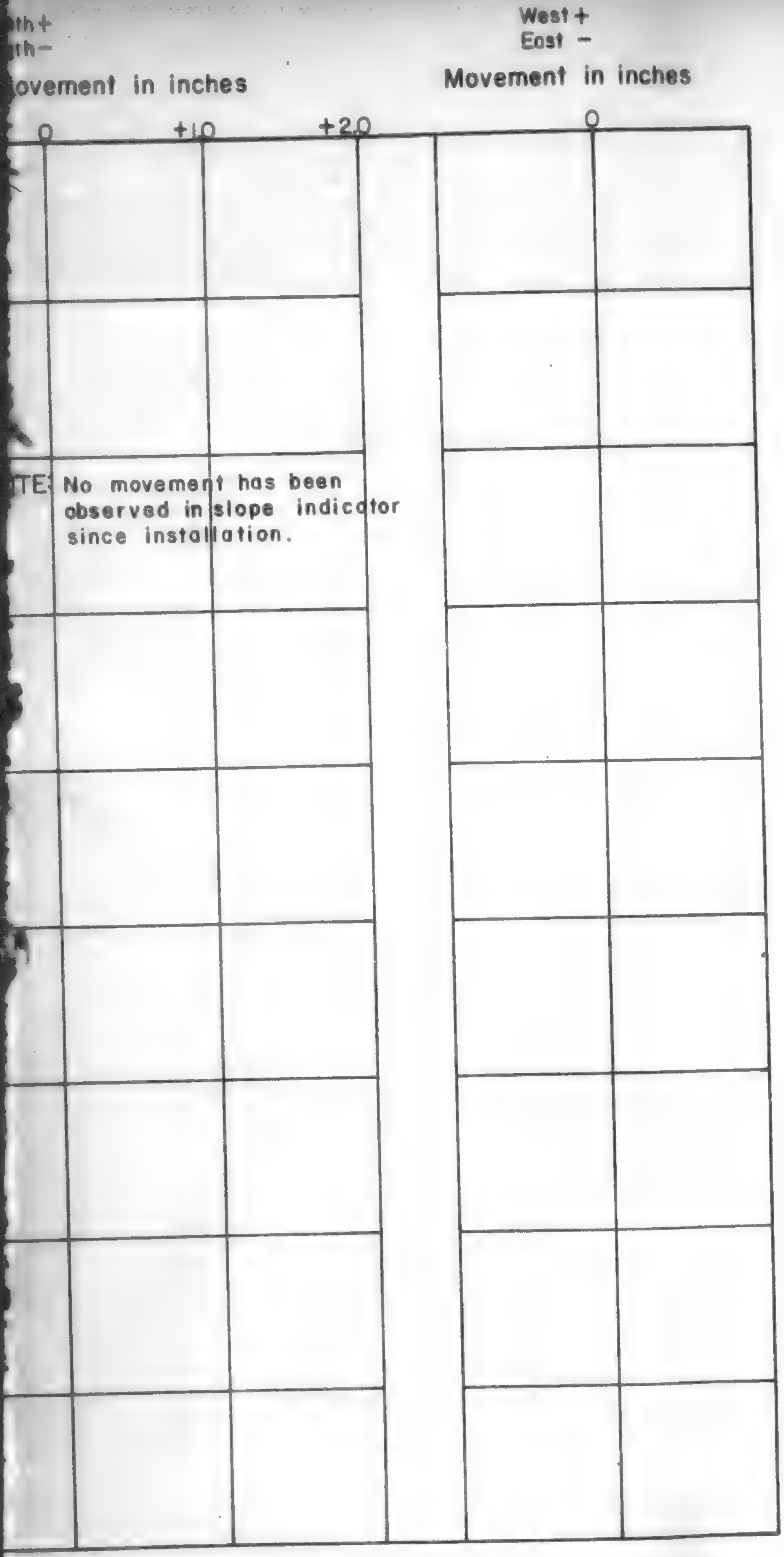
LOG OF BORING
BORING NO. B-4

0-406 APRIL, 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.

FIG. 11

UNIFIED SOIL CLASSIF.	SOIL DESCRIPTION Surface Elevation 627'	DEPTH-feet	SAMPLES
	Firm, mottled rust brown, slightly clayey SILT becoming very clayey SILT. Micaceous. (PORTLAND SILT FORMATION)	0	1 I 2 I 3 I 4 I
	Decomposed basalt: Firm to stiff, very mottled rust brown, clayey SILT with scattered yellow mineraloids.	20	5 I 6 I 7 I
	Decomposed basalt: Hard, mottled brownish, clayey SILT becoming sandy SILT with scattered dense angular rock fragments. Moisture increased in the interval 47.5–54.0' ft. Disturbed zones present in the interval 56.0–63.5ft	35	8 I 9 I 10 I 11 I 12 I 13 I 14 I
	Dense, mottled brown and gray, weathered vesicular basalt. (COLUMBIA RIVER BASALT FORMATION)	65	15 I 16 I 17 I 18 I 19 I 20 I 21 I
	Bottom of Boring	82.6	22 I *





TE: No movement has been observed in slope indicator since installation.

LEGEND

I 2"	O.D. split spoon sample
II 3"	O.D. thin-wall sample
P	Samples pushed
×	Sample not recovered
▽	Water level
	Impervious seal
■	Piezometer

Atterberg limits
- Liquid limit
- Natural water content
- Plastic limit

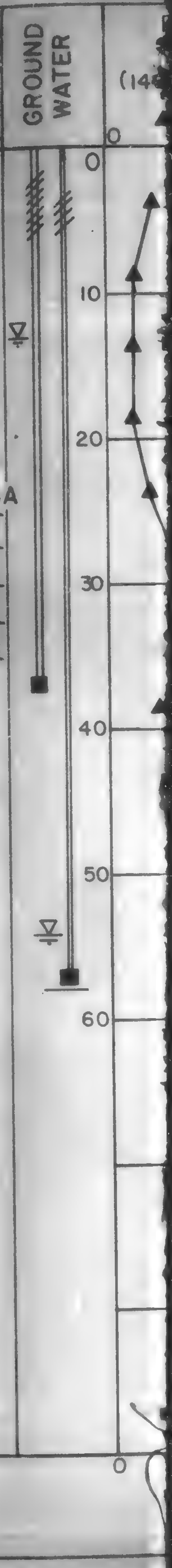
SLIDE INVESTIGATION
OMSI-ZOO COMPLEX
PORTLAND, OREGON

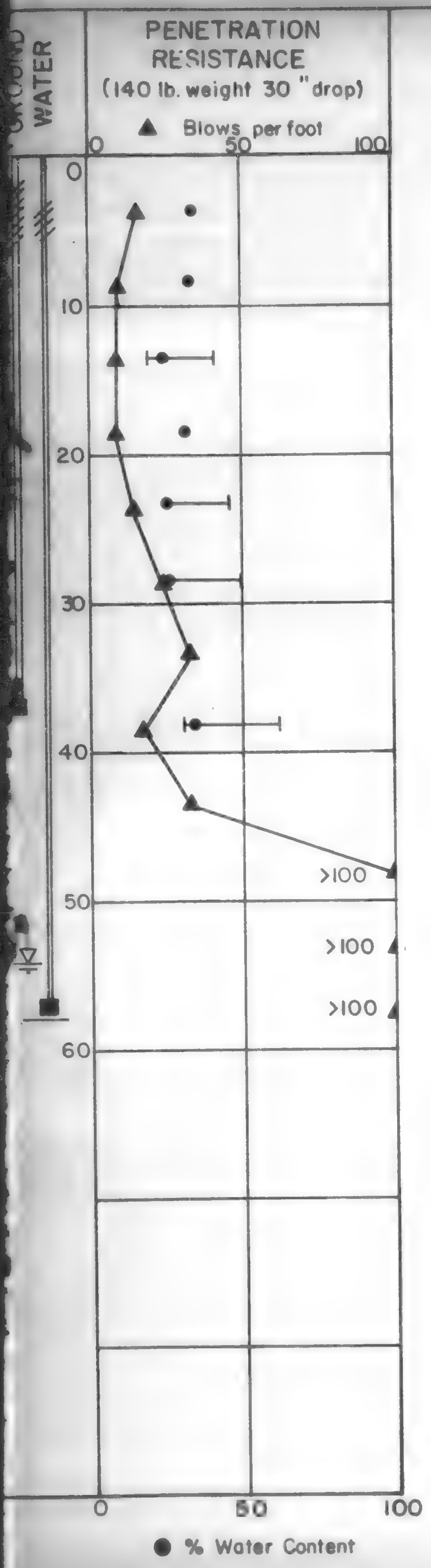
LOG OF BORING
BORING NO. B-5

0-406 APRIL, 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.

FIG. 12

UNIFIED SOIL CLASSIF.	SOIL DESCRIPTION Surface Elevation 641'	DEPTH-feet	SAMPLES
	Very firm, brown with gray streaks, clayey SILT becoming very stiff, silty CLAY. Possible slickensides at 18.5 ft.	0	6 1 2 3 4 5 6A
	Very stiff to hard, reddish brown to brick red CLAY. Possible disturbed zones 37.5'-39 ft.	25	6 7 8
	Decomposed basalt: Hard, mottled gray, sandy SILT.	40	9
	Very dense, gray brown, weathered basalt with yellow mineraloid in vesicles. (COLUMBIA RIVER BASALT FORMATION)	45	10 11 12
	Bottom of Boring NOTE: Could not fill boring with water when backflushing piezometer. Rock at bottom of hole is pervious.	57.6	





LEGEND

Ⅰ 2" O.D. split spoon sample

Ⅱ 3" O.D. thin-wall sample

P Samples pushed

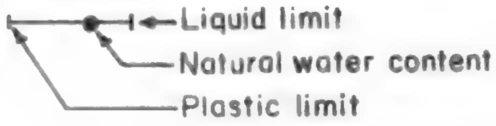
✶ Sample not recovered

▽ Water level

Impervious seal

Piezometer

Atterberg limits


Liquid limit
Natural water content
Plastic limit

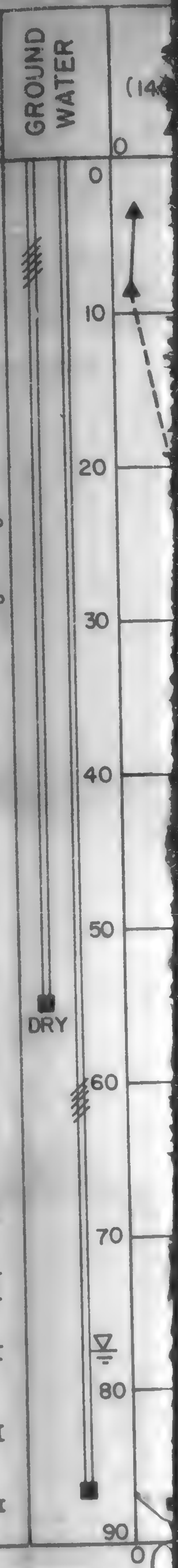
SLIDE INVESTIGATION
OMSI-ZOO COMPLEX
PORTLAND, OREGON

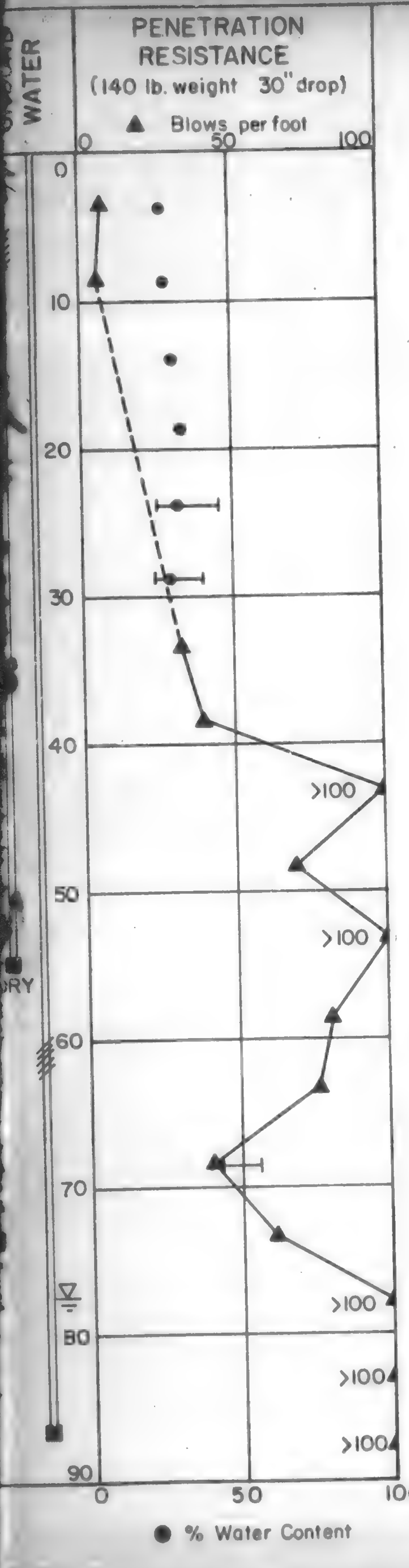
LOG OF BORING
BORING NO. B-6

0-406 APR., 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.

FIG. 13

UNIFIED SOIL CLASSIF.	SOIL DESCRIPTION Surface Elevation 615'	DEPTH-feet	SAMPLES
	Fill: Soft to firm, mottled brown, clayey SILT.	0	1 2
	Firm to stiff, light brown to rust brown, slightly clayey sandy SILT with trace of organics. (PORTLAND SILT FORMATION)	9	3 4 5 P 6 P
	Decomposed basalt: Hard, mottled rust brown gray reddish yellow, clayey SILT and silty CLAY becoming sandy SILT with common yellow mineraloid. Disturbed zones present at 32.5-34.0 ft. and though the interval 62.5-69.0 ft.	29.5	7 8 9 10 11 12 13 14 15
	Dense gray brown to gray weathered basalt. (COLUMBIA RIVER BASALT FORMATION)	75	16 17
	Bottom of Boring	87.7	18





LEGEND

I 2" O.D. split spoon sample

II 3" O.D. thin-wall sample

P Samples pushed

* Sample not recovered

▽ Water level

Impervious seal

Piezometer

Atterberg limits

Liquid limit

Natural water content

Plastic limit

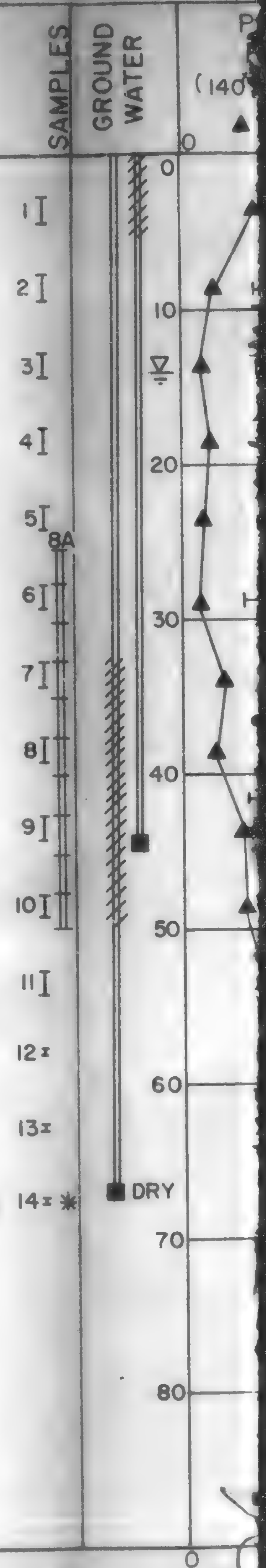
SLIDE INVESTIGATION
OMSI-ZOO COMPLEX
PORTLAND, OREGON

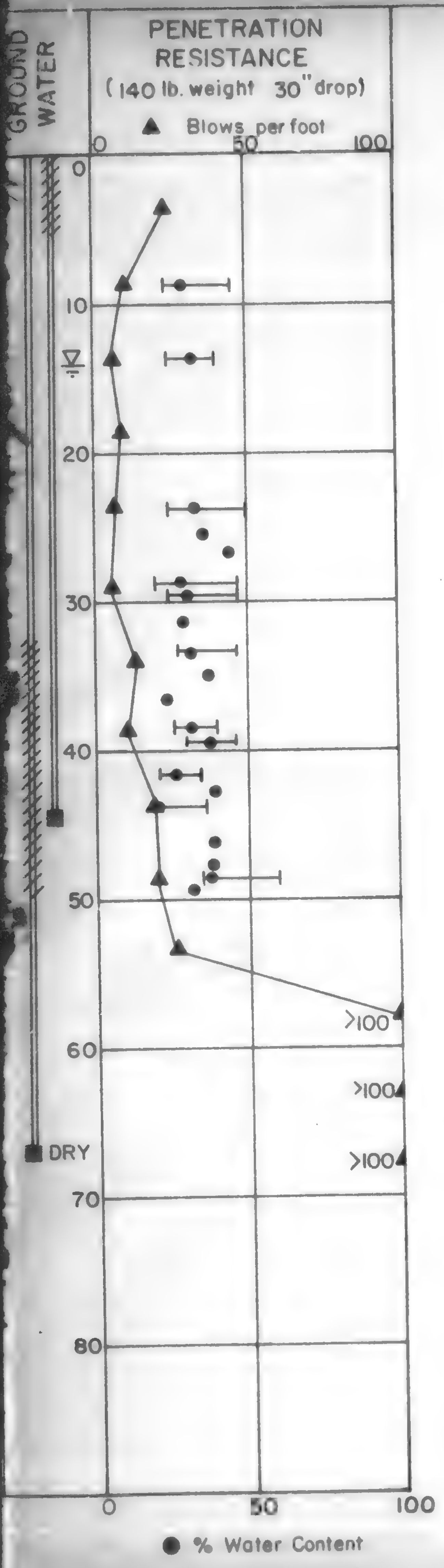
LOG OF BORING
BORING NO. B-7

0-406 APR. 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.

FIG. 14

UNIFIED SOIL CLASSIF.	SOIL DESCRIPTION Surface Elevation 609'	DEPTH-feet
	Fill: Gray-brown SILT with rock, brick and concrete debris.	0
	Firm to stiff, light brown, mottled, CLAY and clayey SILT with scattered iron shot. (PORTLAND SILT FORMATION)	5
	HELVETIA FM. (?): Stiff, reddish brown CLAY with scattered weathered fine to coarse SAND and occasional pebbles. Fractures, 25-90°, with slickensides at 37.5-39.0', 42.5-45.0', 45.0-47.5' and 47.5-50.0'.	25
	Stiff to hard, brick red CLAY	46
	Decomposed basalt: Hard, mottled yellow brown-gray, clayey SILT.	49
	Dense, brown-gray, weathered basalt. (COLUMBIA RIVER BASALT FORMATION)	55
	BOTTOM OF BORING BORING COMPLETED 4/21/69	67.5





LEGEND

I 2" O.D. split spoon sample

II 3" O.D. thin-wall sample

P Samples pushed

* Sample not recovered

▽ Water level

Impervious seal

Piezometer

Atterberg limits

Liquid limit

Natural water content

Plastic limit

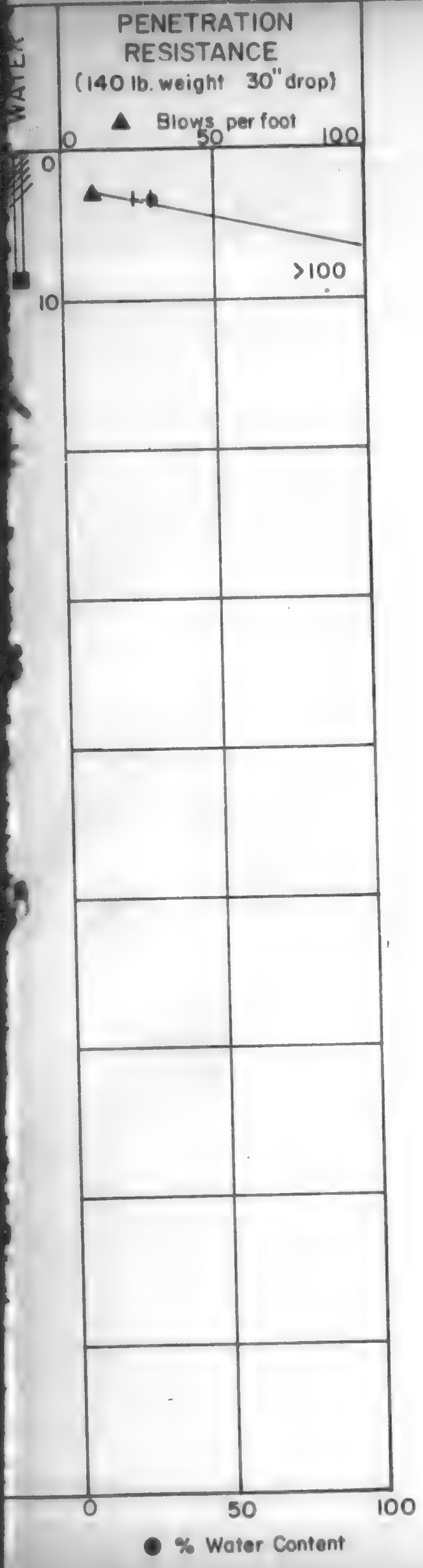
SLIDE INVESTIGATION
OMSI–ZOO COMPLEX
PORTLAND, OREGON

LOG OF BORING
BORING NO. B-8

0-406 APRIL, 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.

FIG 15

UNIFIED SOIL CLASSIF.	SOIL DESCRIPTION Surface Elevation 556'±	DEPTH-feet	SAMPLES	GROUND WATER
	Decomposed basalt: Firm, mottled brown-gray and dark gray, clayey SILT w/rock fragments. Disturbed zone.	0 4.5	1	
	Dense gray vesicular basalt.	7.7	2	
	Bottom of Boring			



LEGEND

- I 2" O.D. split spoon sample
- II 3" O.D. thin-wall sample
- P Samples pushed
- * Sample not recovered
- ▽ Water level
- Impervious seal
- Piezometer

Atterberg limits

Liquid limit

Natural water content

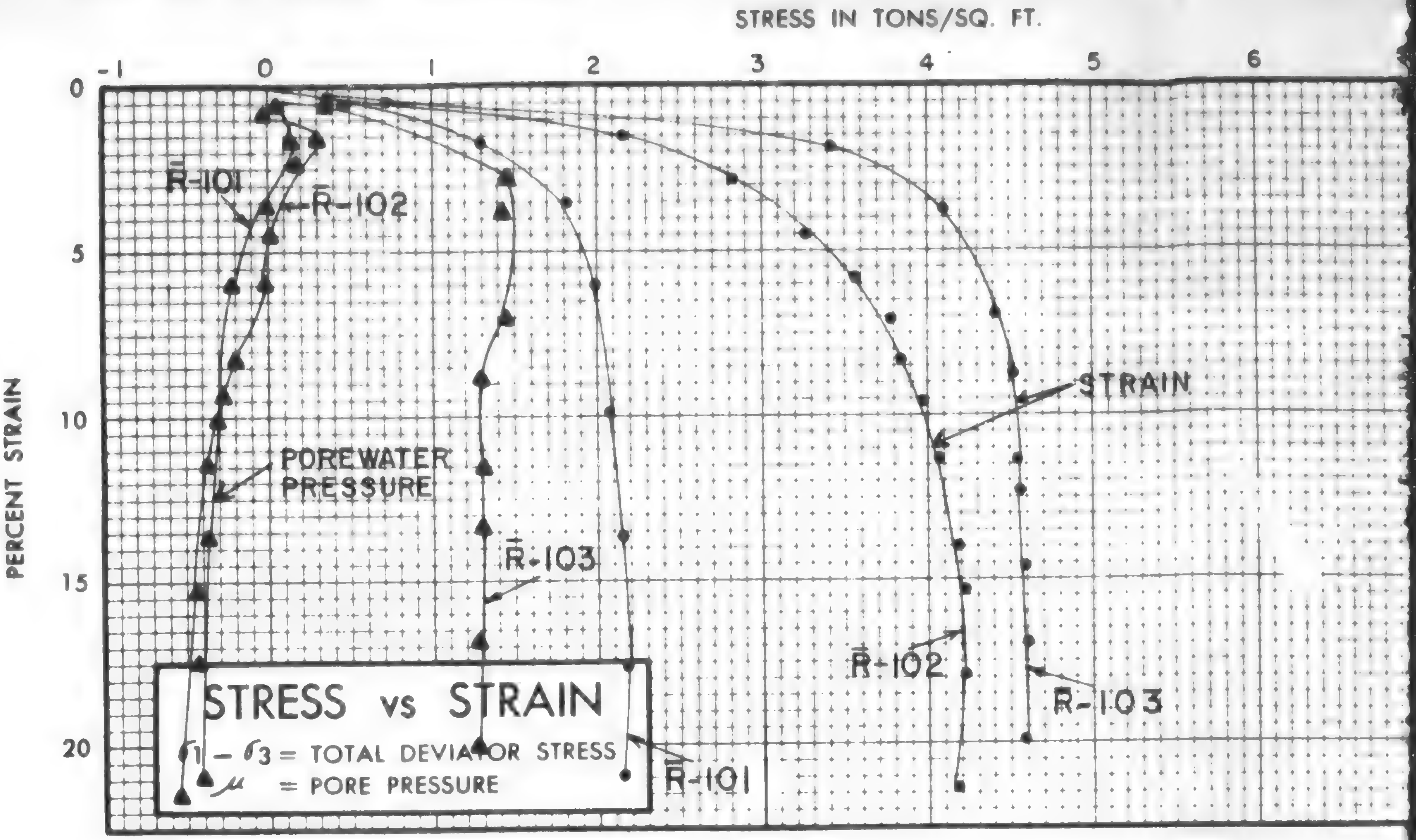
Plastic limit

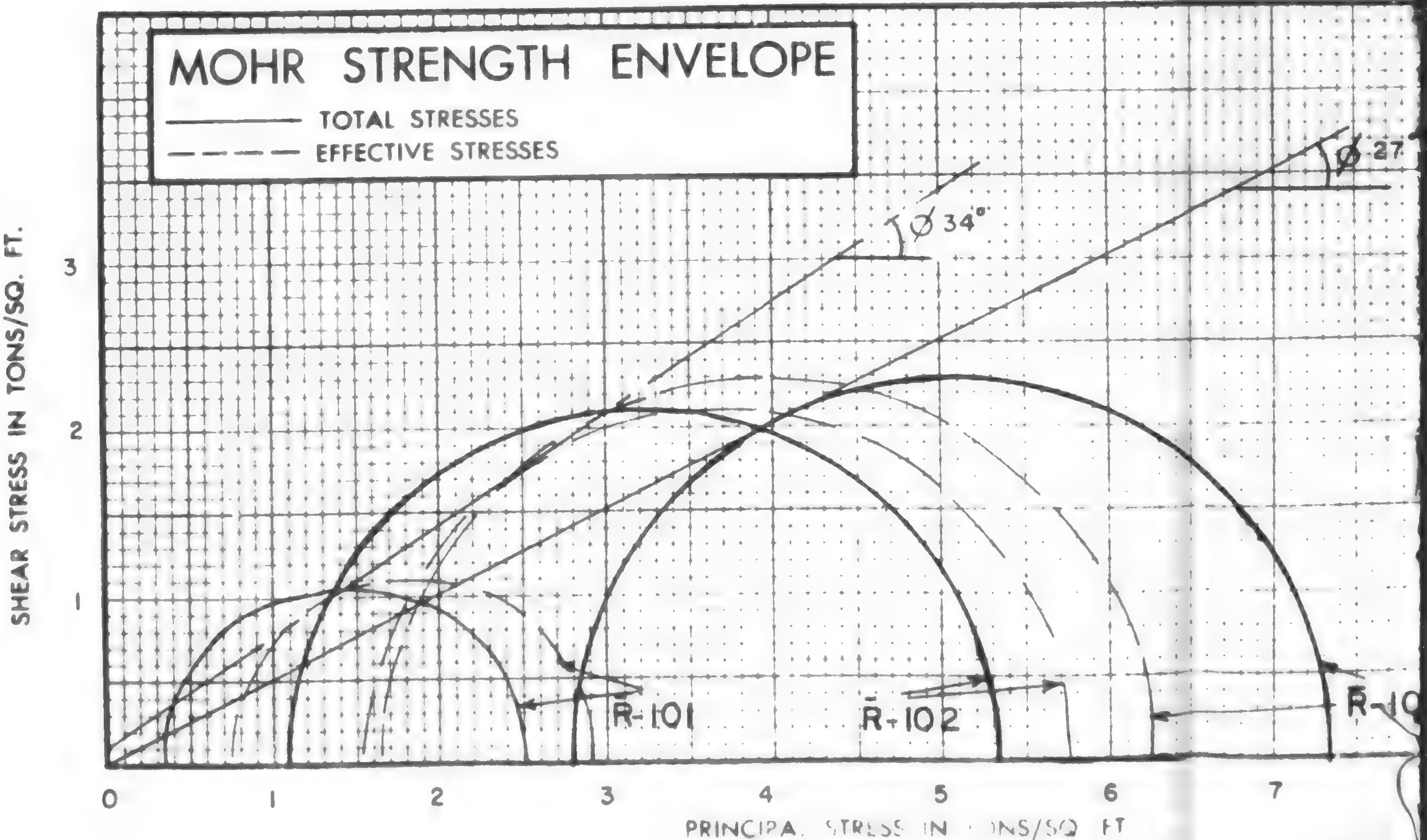
SLIDE INVESTIGATION
OMSI–ZOO COMPLEX
PORTLAND, OREGON

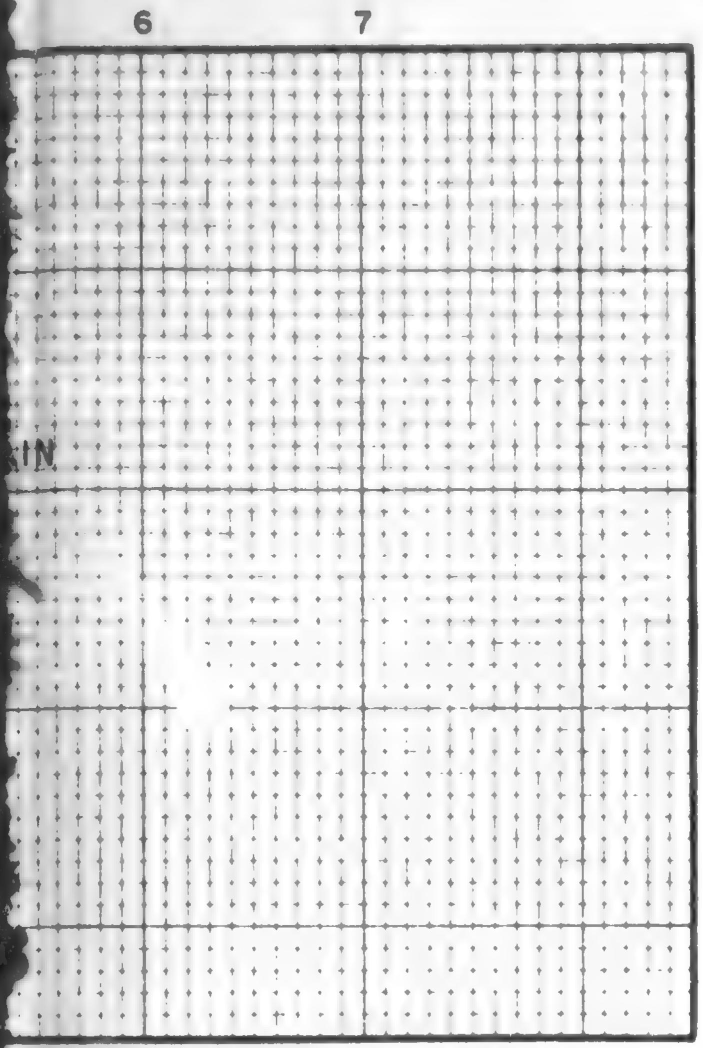
LOG OF BORING
BORING NO. B-9

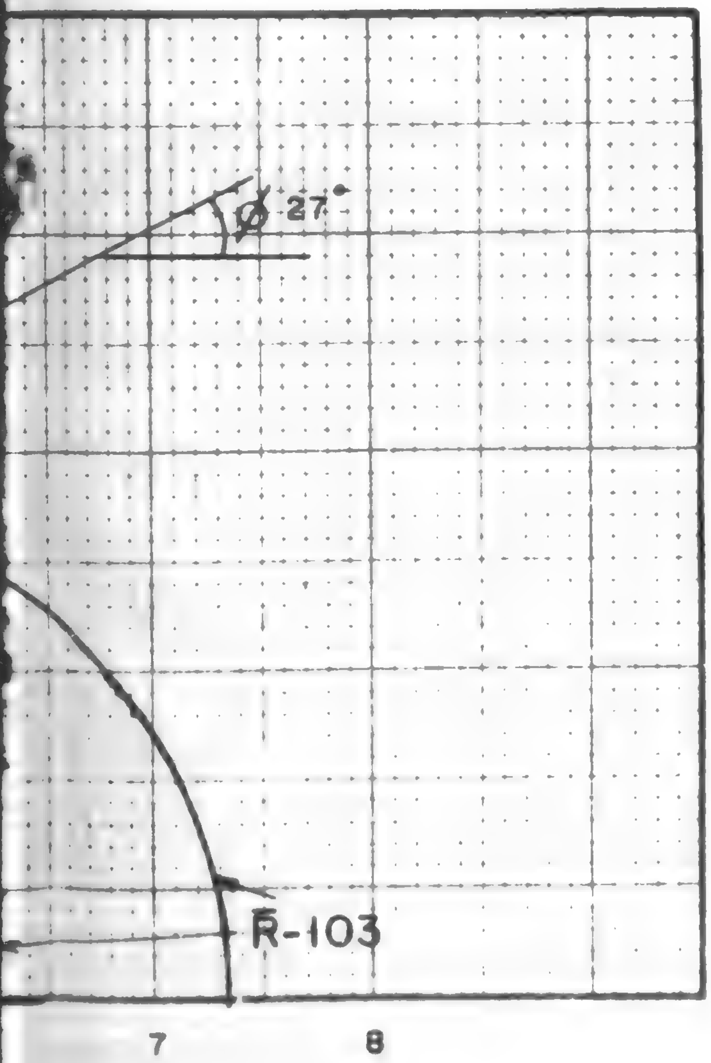
0-406 MAY, 1969
SHANNON & WILSON
SOIL MECHANICS & FOUNDATION ENG.

FIG. 16


STRESS IN TONS/SQ. FT.
-1
0
1
2
3
4
5
6
PERCENT STRAIN
0
5
10
15
20
R̄-101
R̄-102
PORE WATER PRESSURE
R̄-103
STRAIN
R̄-102
R-103
R̄-101
STRESS vs STRAIN
$\sigma_1 - \sigma_3$ = TOTAL DEVIATOR STRESS
μ = PORE PRESSURE


MOHR STRENGTH ENVELOPE
—— TOTAL STRESSES
– – – EFFECTIVE STRESSES
Ø 34°
Ø 27
SHEAR STRESS IN TONS/SQ. FT.
1
2
3
R̄-101
R̄-102
R̄-10
0
1
2
3
4
5
6
7
PRINCIPAL STRESS IN TONS/SQ FT





TYPE OF TEST ☐ Q ■ R̄ ☐ S

■ PRESATURATED ☐ COMPACTED ■ UNDISTURBED

■ BACK PRESSURE

TEST NO.		R̄-101	R̄-102	R̄-103	
CLASSIFICATION:					
CHAMBER PRESSURE, tsf.		0.36	1.08	2.78	
HEIGHT, inches		4.97	4.97	4.97	
DIAMETER, inches		2.1	2.1	2.1	
___ UNIT WT., pcf.		1205	119.5	123.9	
% WATER CONTENT	BEFORE TEST	28.2	28.2	28.2	
	AFTER SATURATION				
	AFTER TEST	32.0	29.6	27.6	
BACK PRESSURE - psi		42	70	50	

COMPACTIVE EFFORT:

_______ lb. hammer _________ inch drop

_______ layers _______ blows/layer

_______ % compaction @ ______________

REMARKS: BROWN SILTY CLAY

LL = 46 PL = 25 PI = 21

TRIAXIAL COMPRESSION TEST

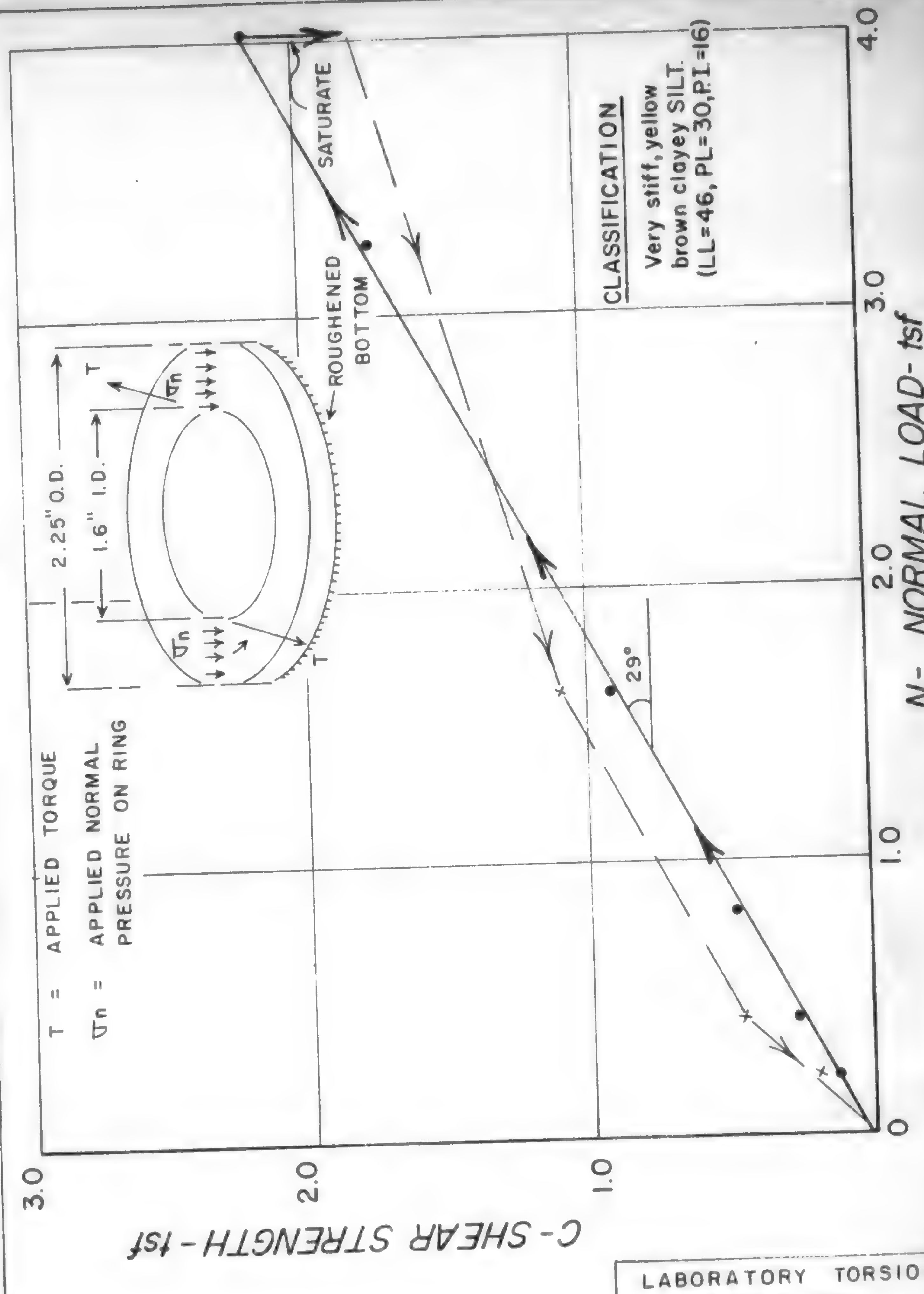
BORING B-7, SAMPLES, S-4, S-5

DEPTH 17.5 - 25.0 FT.

0-406 MAY, 1969

Shannon and Wilson
Soil mechanics and foundation engineers
Seattle

FIG. 17



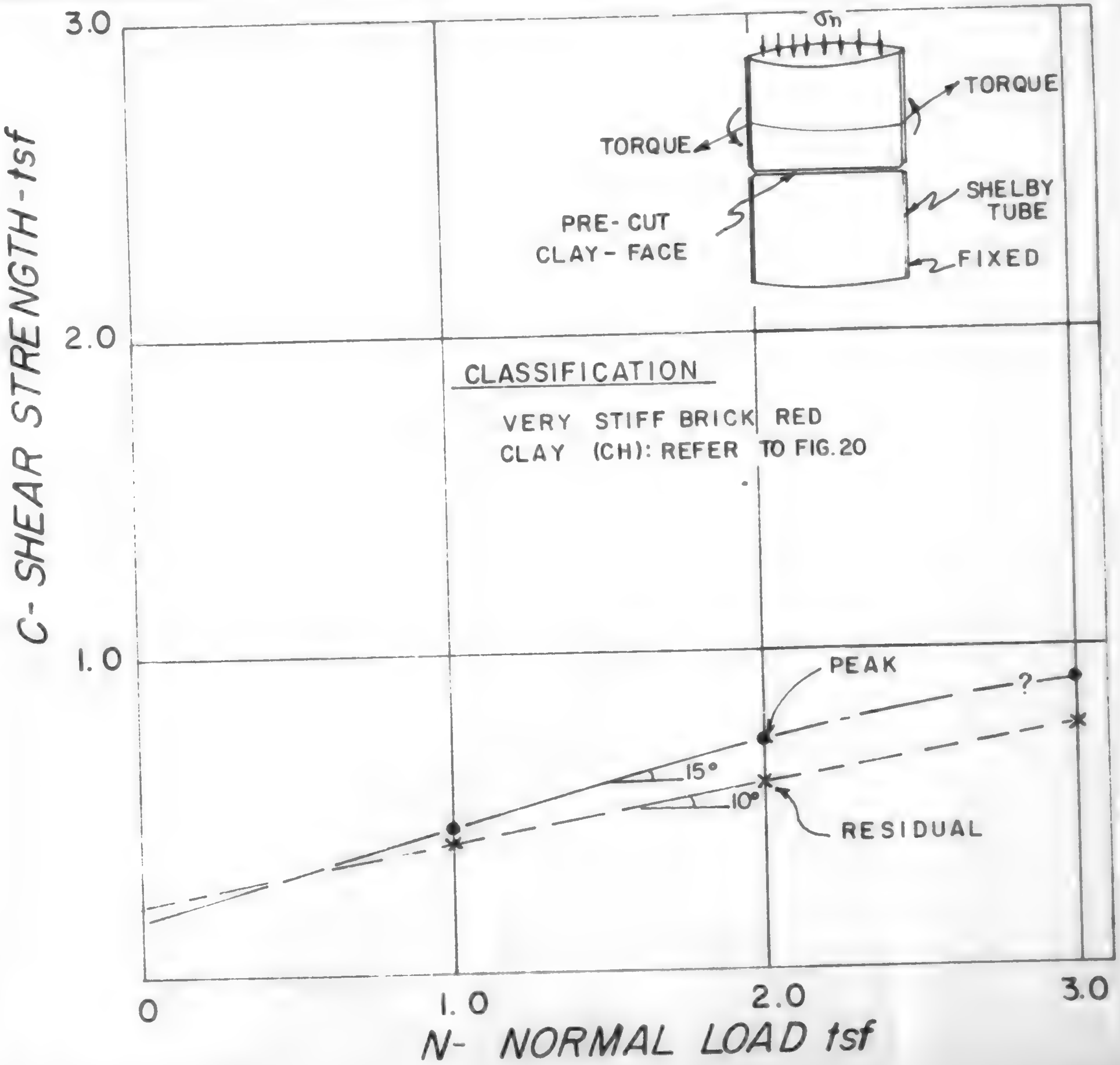
LABORATORY TORSION SHEAR TEST

BORING B-8A, SAMPLE S-7

(DEPTH 40.0 - 42.5 FT.)

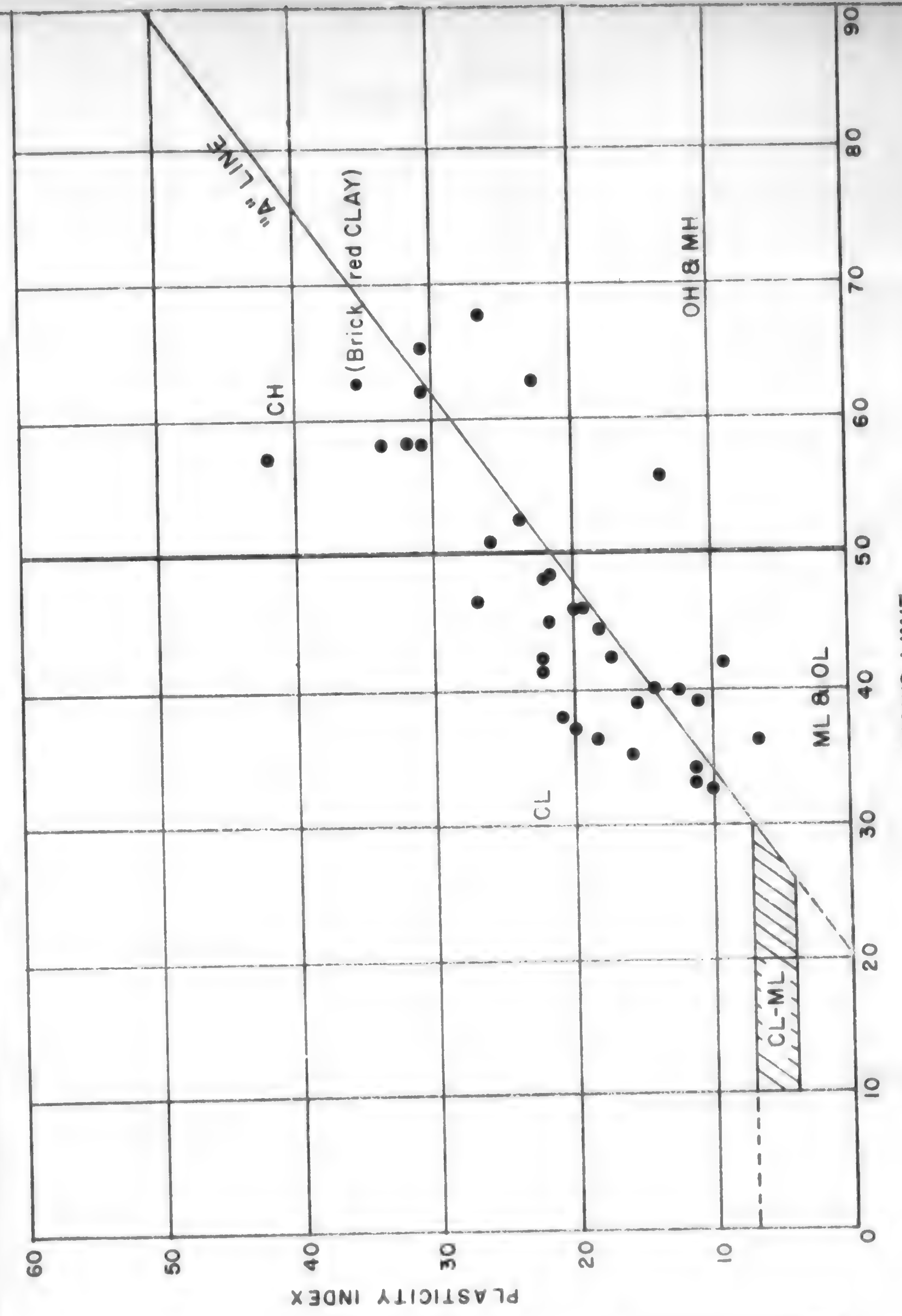
0-406 MAY, 1969

SHANNON & WILSON, INC. FIG. 18



LABORATORY TORSION
SHEAR TEST
BORING B-6A, SAMPLE S-3
(DEPTH 30.0- 32.5 FT.)

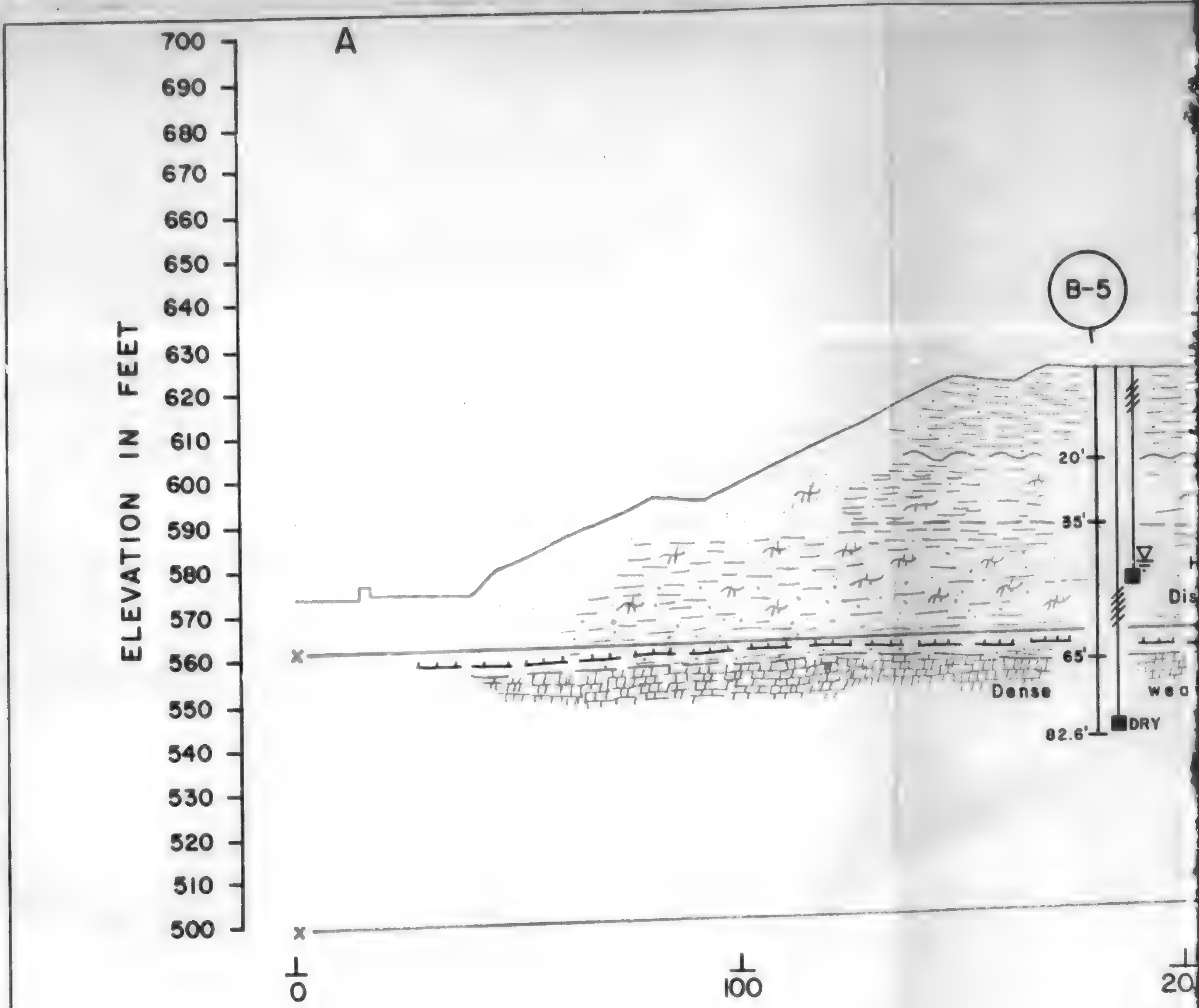
0-406	MAY,1969
SHANNON & WILSON, INC.	FIG. 19

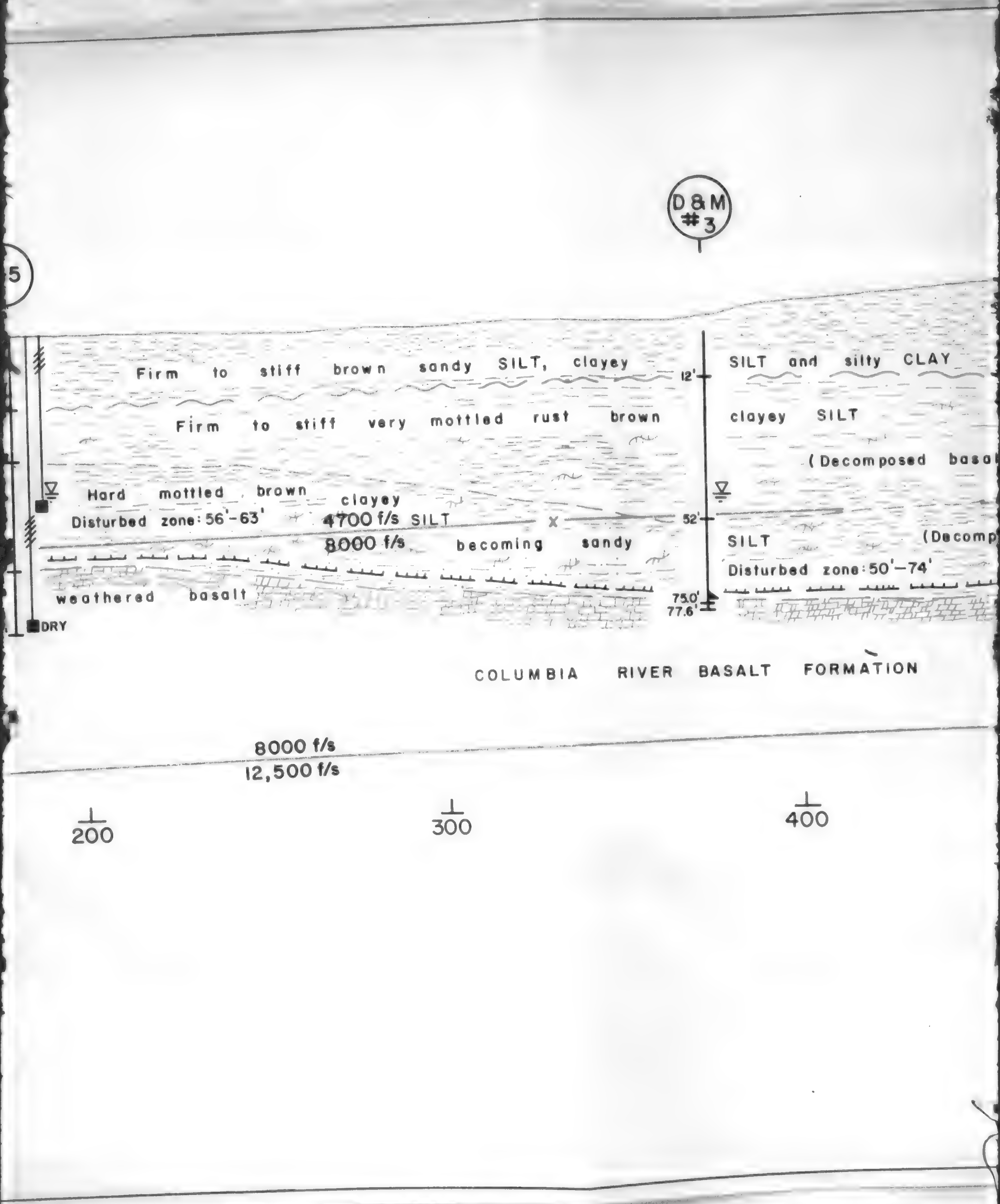


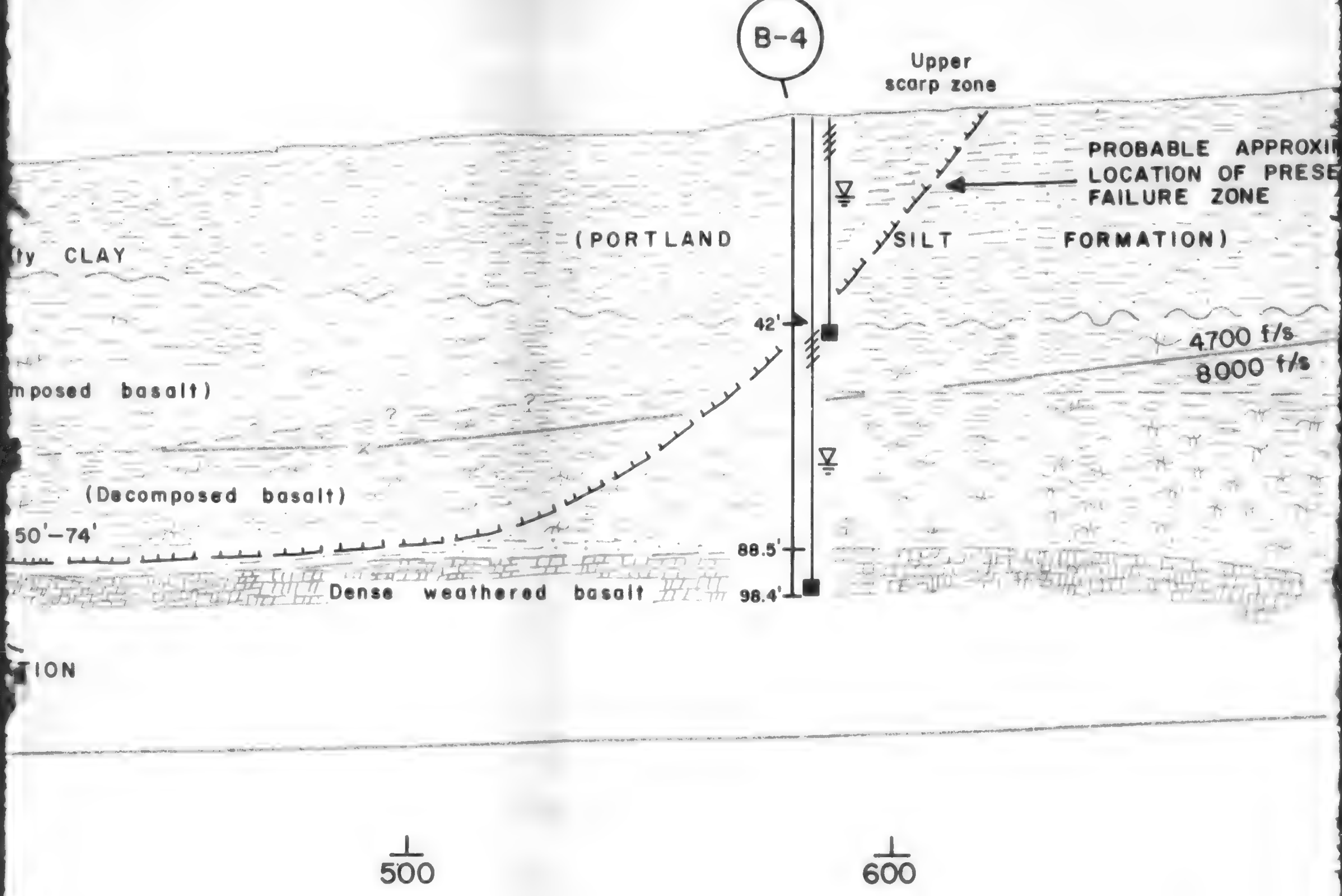
PLASTICITY CHART

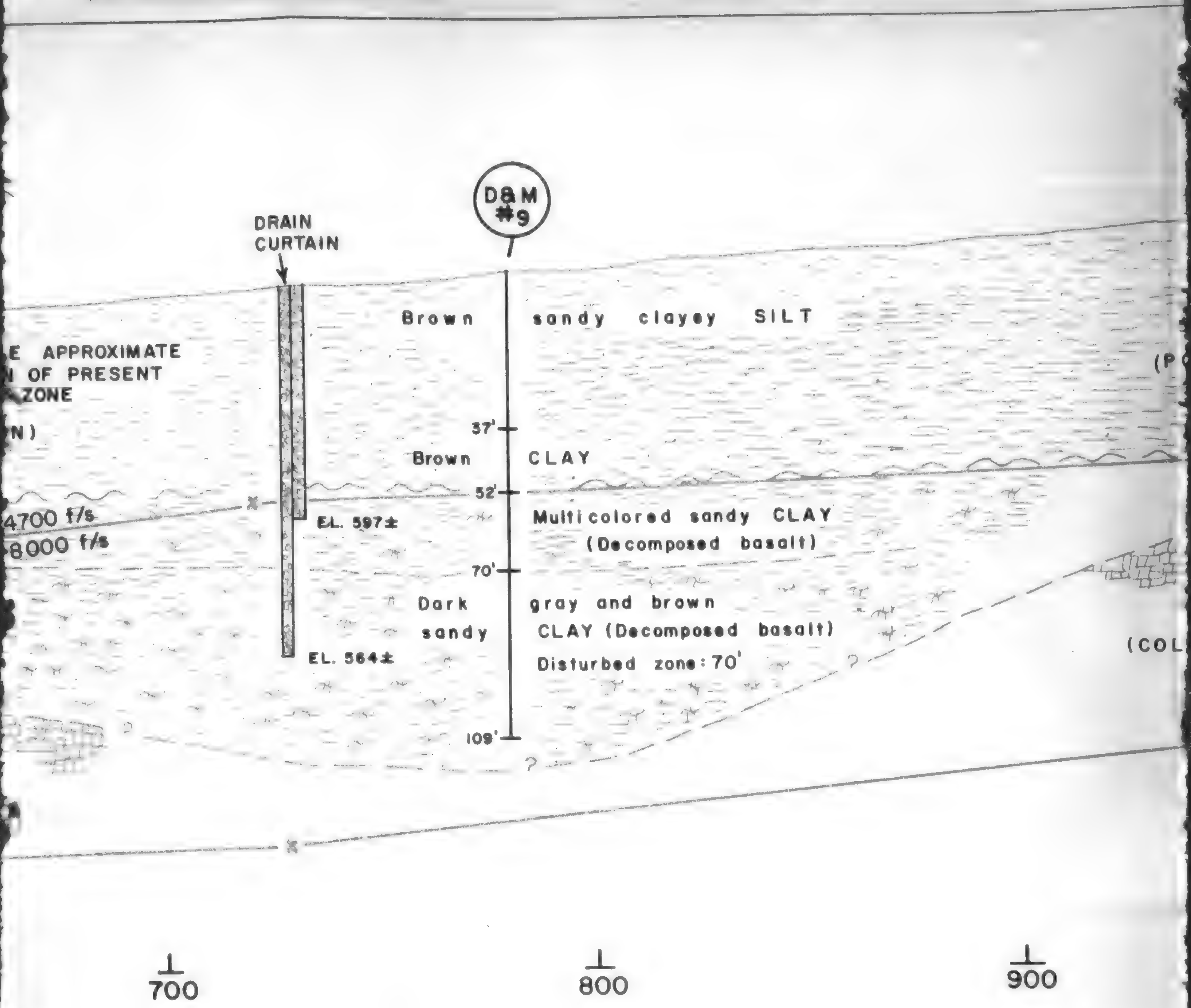
0-406 SHANNON & WILSON MAY, 1969
SOIL MECHANICS & FOUNDATION ENGINEERS

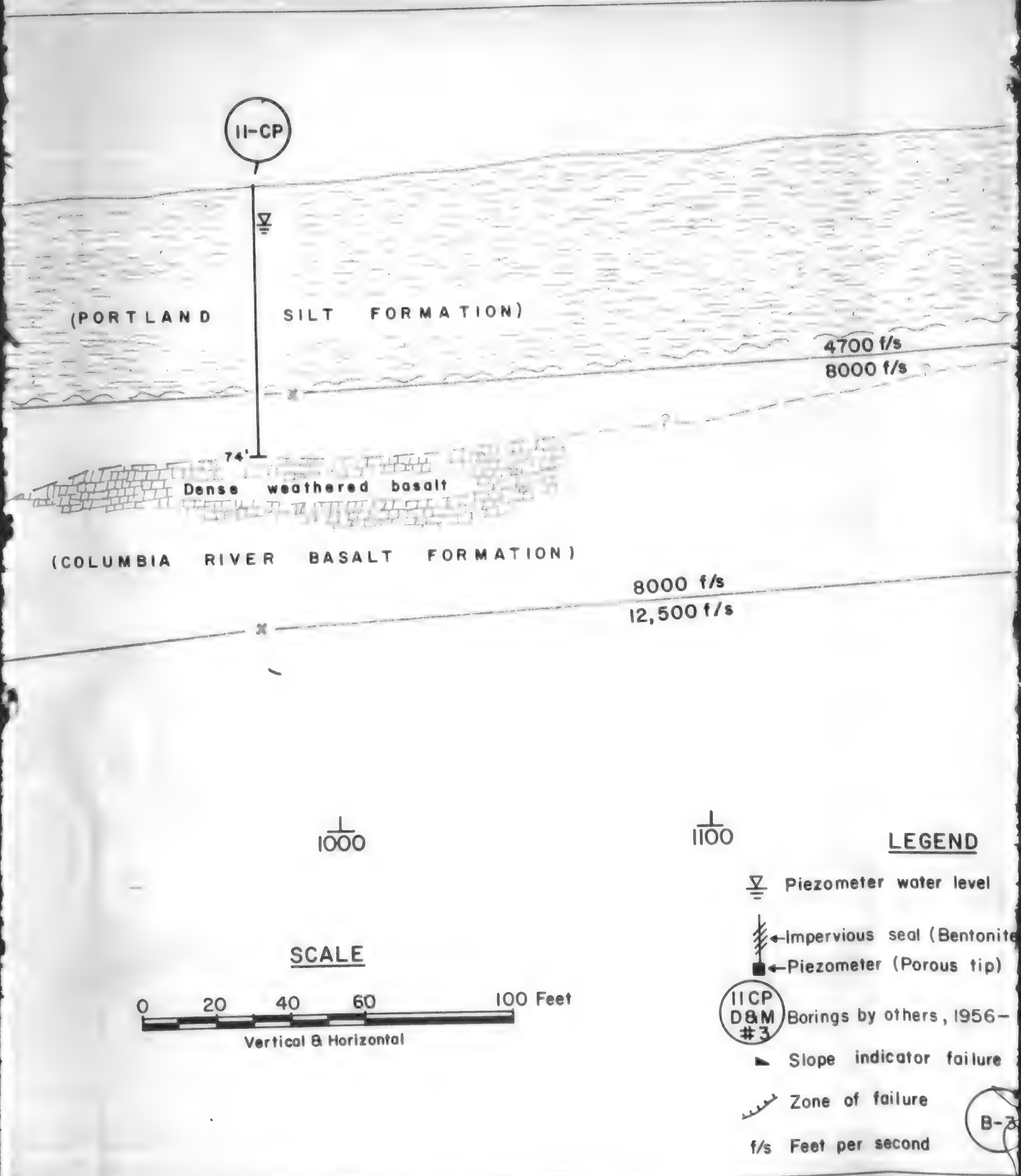
FIG. 20

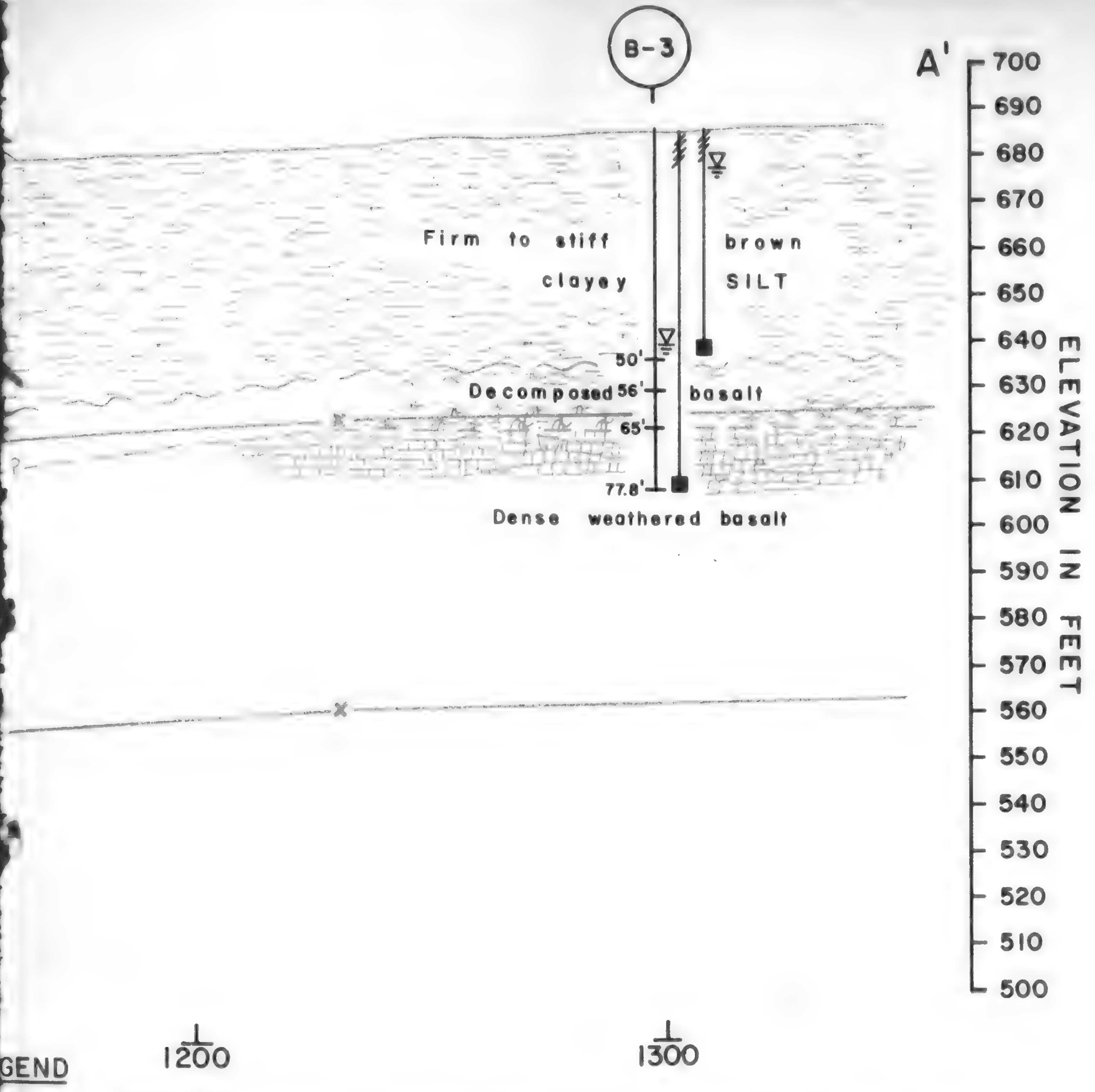

A
ELEVATION IN FEET
B-5
82.6'
DRY
H
Dis
Dense
wea


5
D&M #3
Firm to stiff brown sandy SILT, clayey
Firm to stiff very mottled rust brown
Hard mottled brown clayey
Disturbed zone: 56'-63'
4700 f/s SILT
8000 f/s becoming sandy
weathered basalt
DRY
12'
52'
75.0'
77.6'
SILT and silty CLAY
clayey SILT
(Decomposed basal
SILT
(Decomp
Disturbed zone: 50'-74'
COLUMBIA RIVER BASALT FORMATION
8000 f/s
12,500 f/s
200
300
400


B-4
Upper scarp zone
PROBABLE APPROXI
LOCATION OF PRESE
FAILURE ZONE
(PORTLAND SILT FORMATION)
ty CLAY
42'
4700 f/s
8000 f/s
mposed basalt)
(Decomposed basalt)
50'–74'
88.5'
98.4'
Dense weathered basalt
TION
500
600


D&M #9
DRAIN CURTAIN
E APPROXIMATE
N OF PRESENT
ZONE
N)
Brown sandy clayey SILT
(PO
37'
Brown CLAY
52'
4700 f/s
8000 f/s
EL. 597±
Multicolored sandy CLAY (Decomposed basalt)
70'
Dark gray and brown sandy CLAY (Decomposed basalt)
Disturbed zone: 70'
EL. 564±
(COL
109'
?
?
700
800
900


11-CP
(PORTLAND SILT FORMATION)
4700 f/s
8000 f/s
?
74'
Dense weathered basalt
(COLUMBIA RIVER BASALT FORMATION)
8000 f/s
12,500 f/s
1000
1100
SCALE
0
20
40
60
100 Feet
Vertical & Horizontal
LEGEND
Piezometer water level
Impervious seal (Bentonite
Piezometer (Porous tip)
11CP
D&M
#3
Borings by others, 1956-
Slope indicator failure
Zone of failure
f/s Feet per second
B-3


B-3
A'
700
690
680
670
660
650
640
630
620
610
600
590
580
570
560
550
540
530
520
510
500
ELEVATION IN FEET
Firm to stiff clayey brown SILT
50'
56'
Decomposed basalt
65'
77.8'
Dense weathered basalt
1200
1300

GEND

er level 4500 f/s / 7500 f/s Seismic velocity interface

(Bentonite)

rous tip)

rs, 1956-1960

r failure zone (1959 Investigation)

e

d

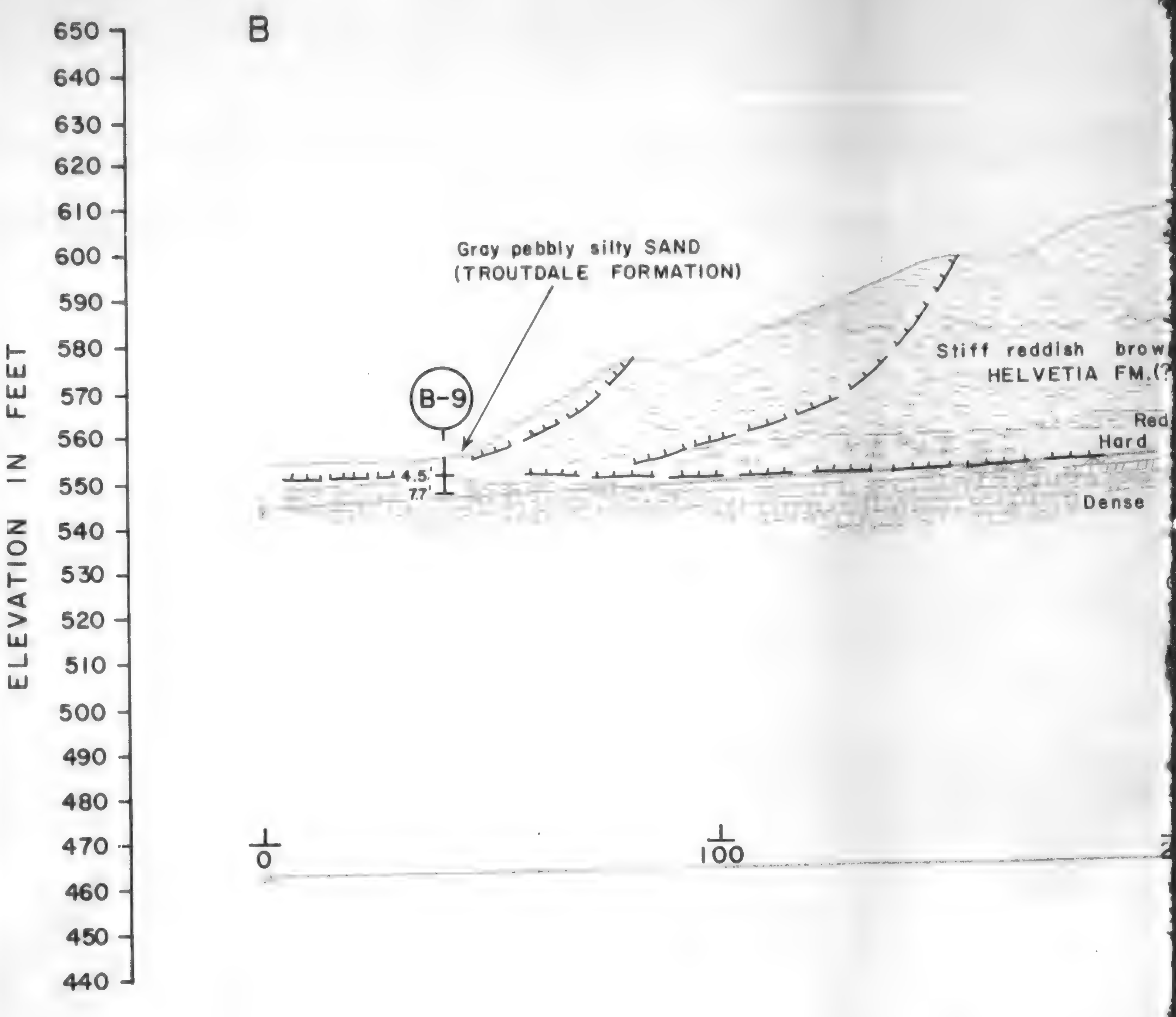
B-3 Borings by SHANNON and WILSON, April, 1969

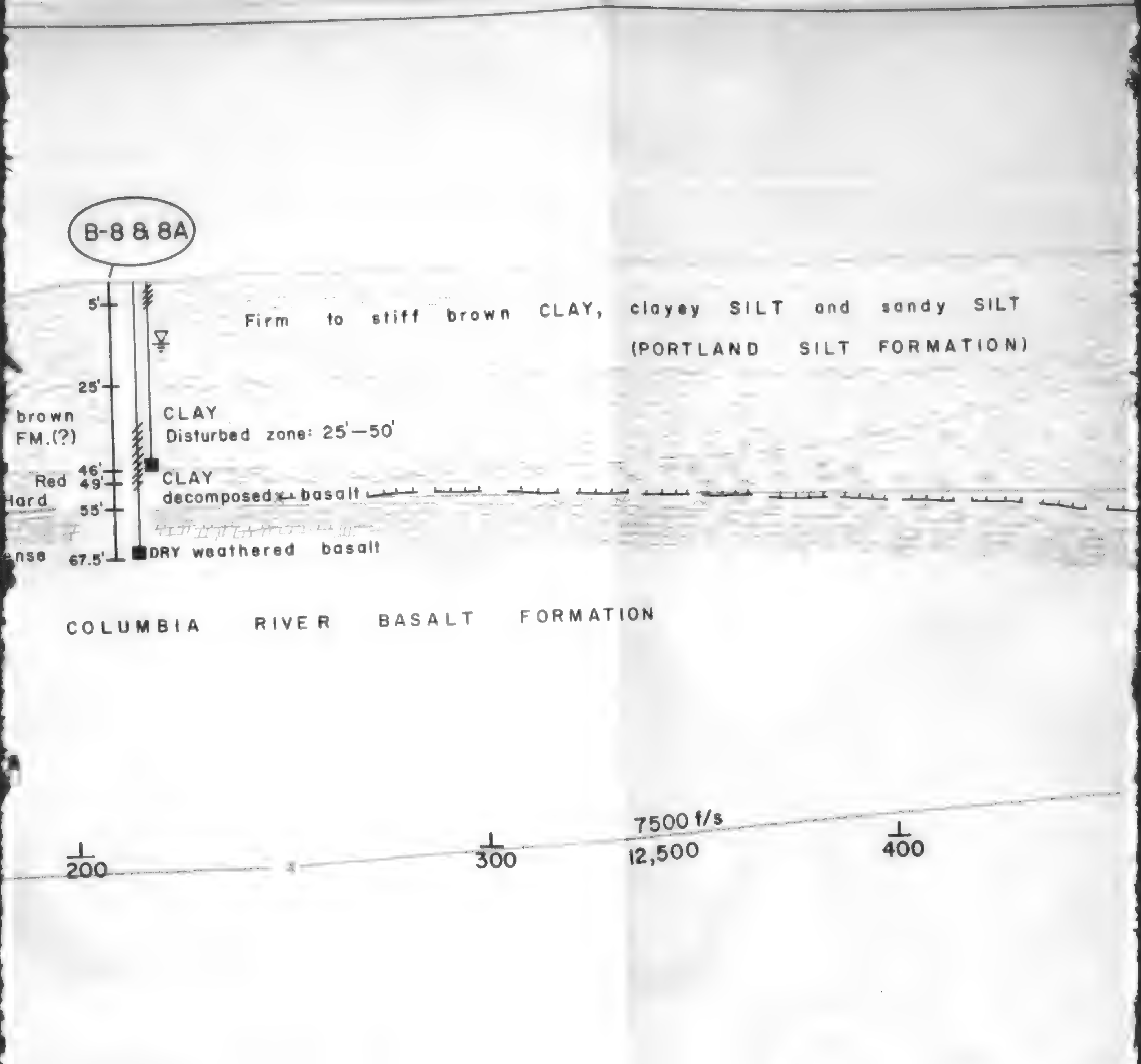
OMSI-ZOO SLIDE
PORTLAND, OREGON

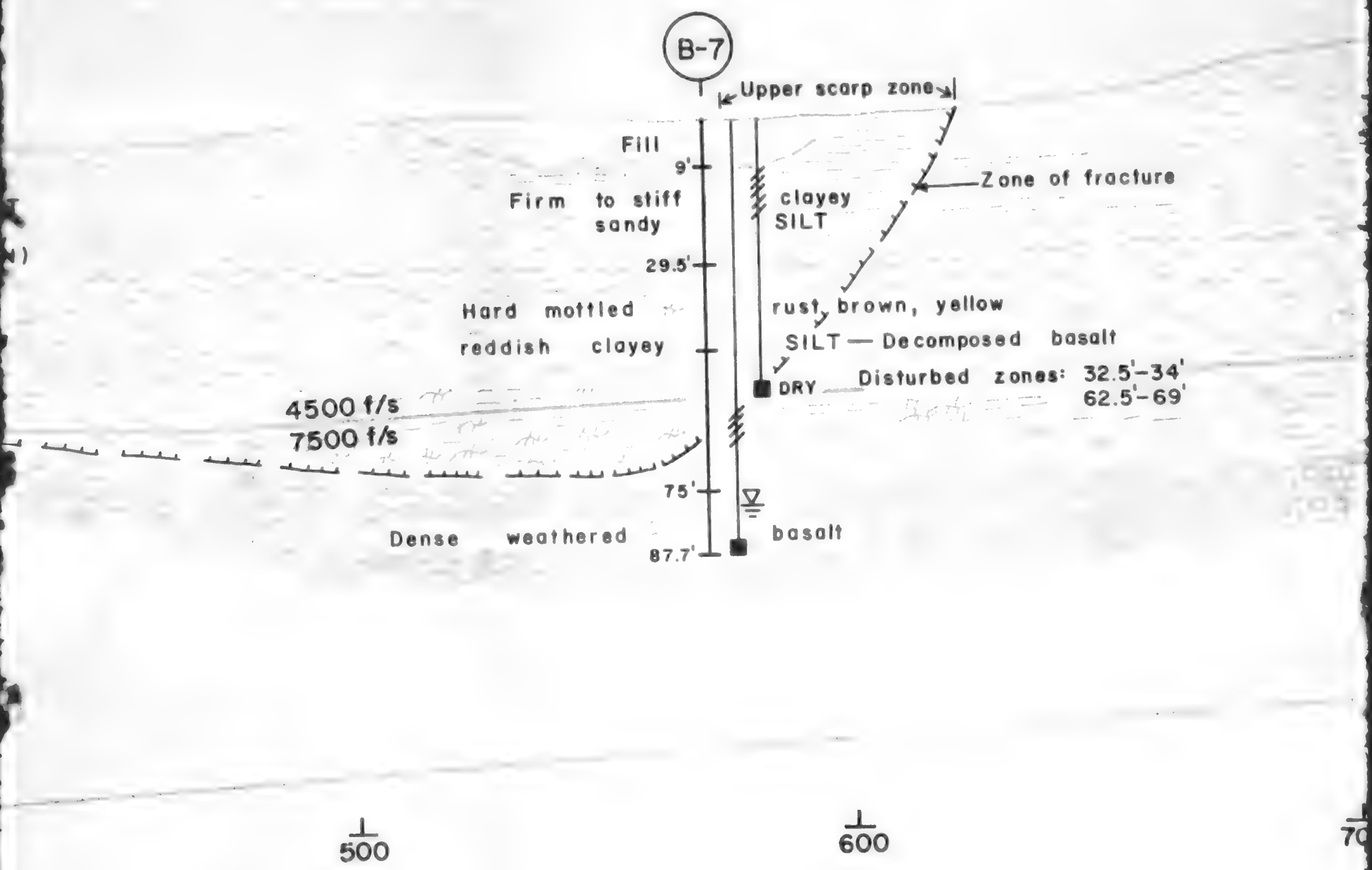
GEOLOGIC CROSS-SECTION
A-A'

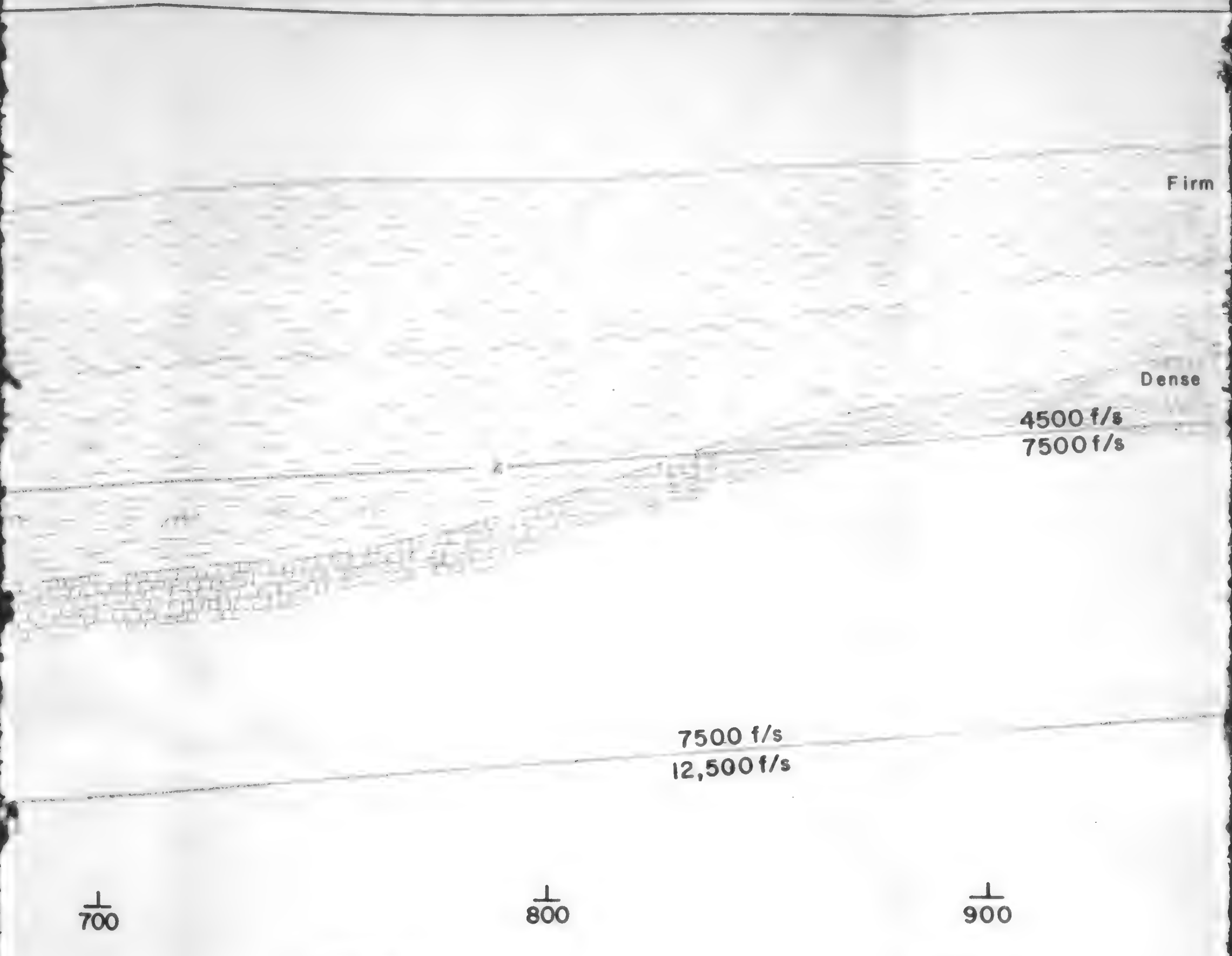
SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG.21


B
ELEVATION IN FEET
Gray pebbly silty SAND
(TROUTDALE FORMATION)
B-9
4.5'
7.7'
Stiff reddish brow
HELVETIA FM.(?
Red
Hard
Dense


B-8 & 8A
5'
25'
46'
49'
55'
67.5'
Firm to stiff brown CLAY, clayey SILT and sandy SILT
(PORTLAND SILT FORMATION)
brown
FM.(?)
CLAY
Disturbed zone: 25'–50'
Red
CLAY
Hard
decomposed basalt
ense
DRY weathered basalt
COLUMBIA RIVER BASALT FORMATION
200
300
7500 f/s
12,500
400


B-7
Upper scarp zone
Fill
9'
Firm to stiff sandy clayey SILT
29.5'
Zone of fracture
Hard mottled reddish clayey rust, brown, yellow SILT — Decomposed basalt
DRY
Disturbed zones: 32.5'-34'
62.5'-69'
4500 f/s
7500 f/s
75'
Dense weathered basalt
87.7'
500
600
70


Firm
Dense
4500 f/s
7500 f/s
7500 f/s
12,500 f/s
700
800
900

LEGEND

▽ Piezometer water level

Impervious seal (Bentonite)

■ Piezometer (Porous tip)

4500 f/s / 7500 f/s Seismic velocity interface

11CP D&M #3 Borings by others, 1956-1960

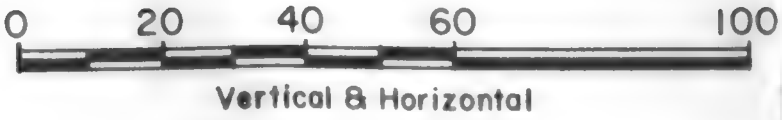
Slope indicator failure zone (1959 Investigation)

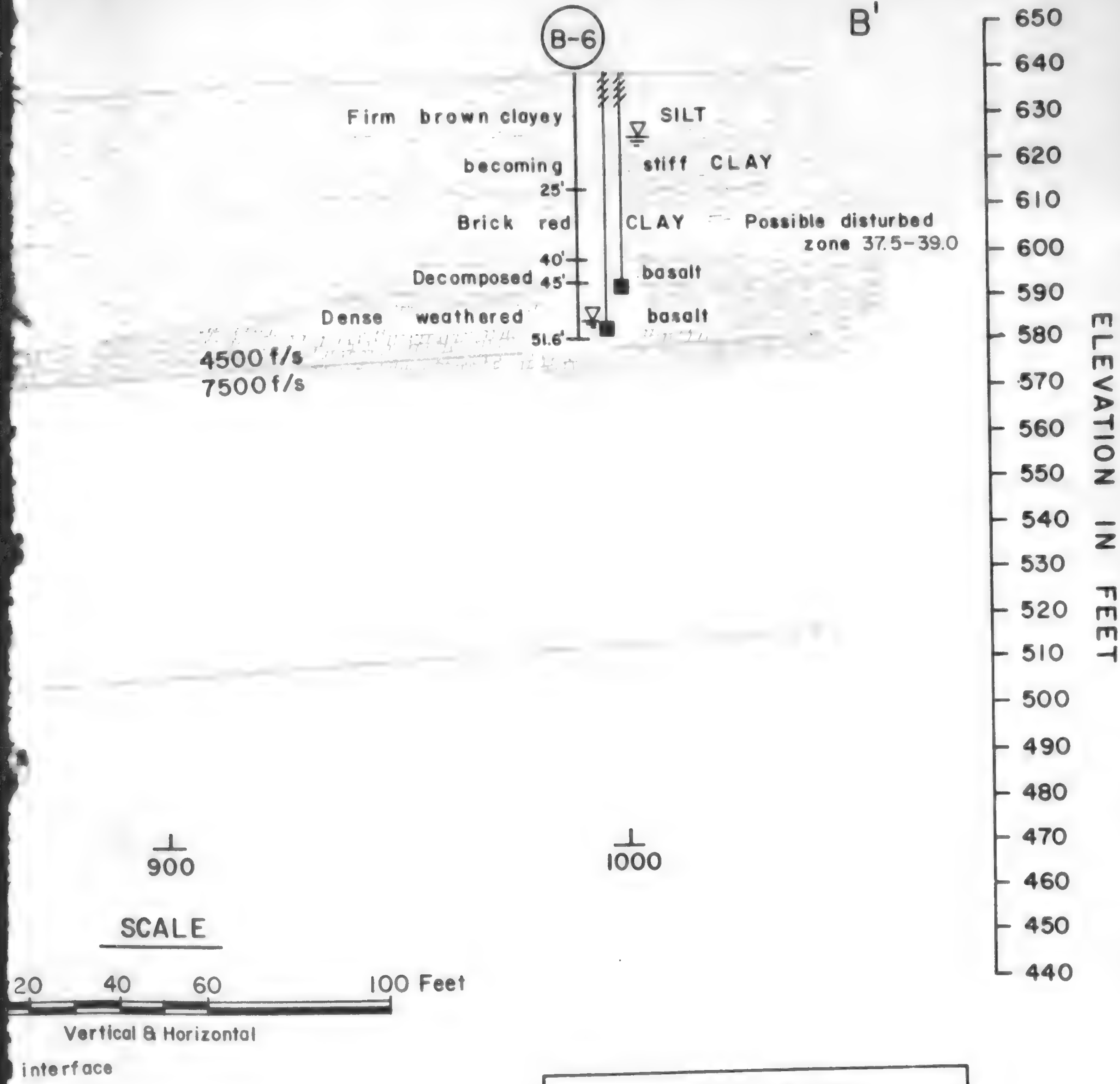
Zone of failure

B-3 Borings by SHANNON and WILSON, April, 1969

f/s Feet per second

SCALE


0
20
40
60
100
Vertical & Horizontal

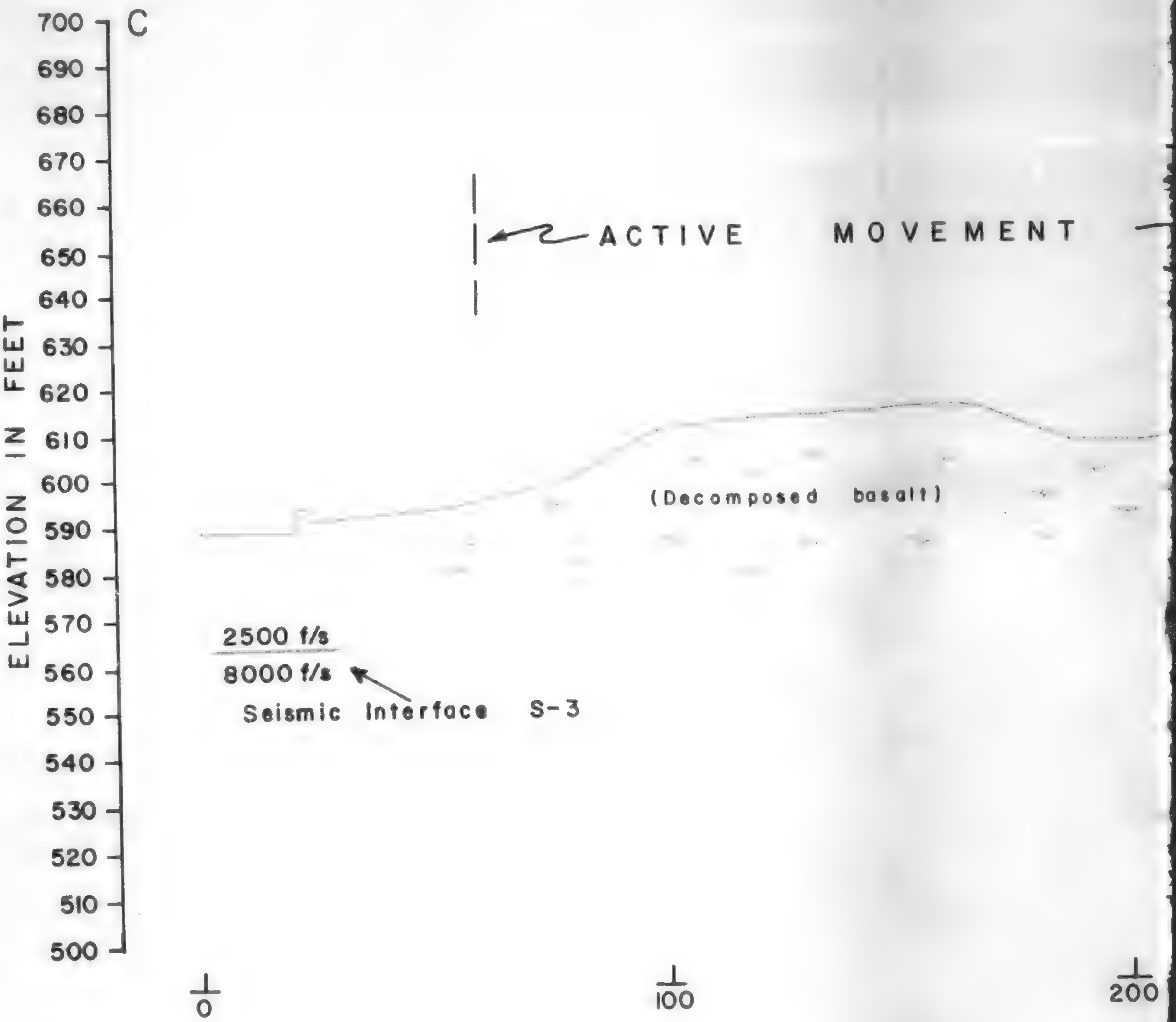

B-6
B'
Firm brown clayey SILT
becoming stiff CLAY
25'
Brick red CLAY
Possible disturbed zone 37.5-39.0
40'
Decomposed 45' basalt
Dense weathered basalt
51.6'
4500 f/s
7500 f/s
650
640
630
620
610
600
590
580
570
560
550
540
530
520
510
500
490
480
470
460
450
440
ELEVATION IN FEET
900
1000
SCALE
20
40
60
100 Feet
Vertical & Horizontal
interface

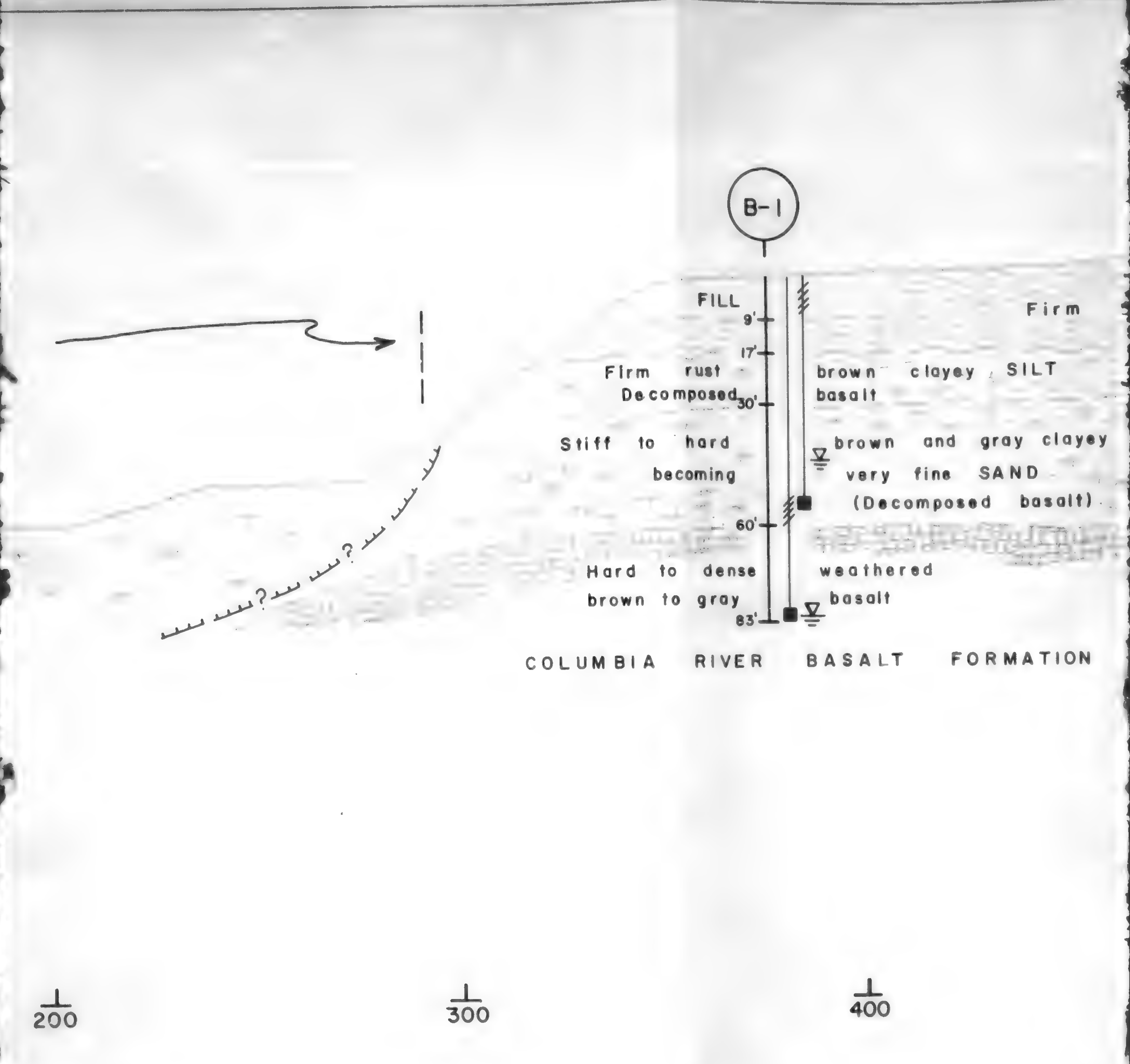
OMSI–ZOO SLIDE
PORTLAND, OREGON

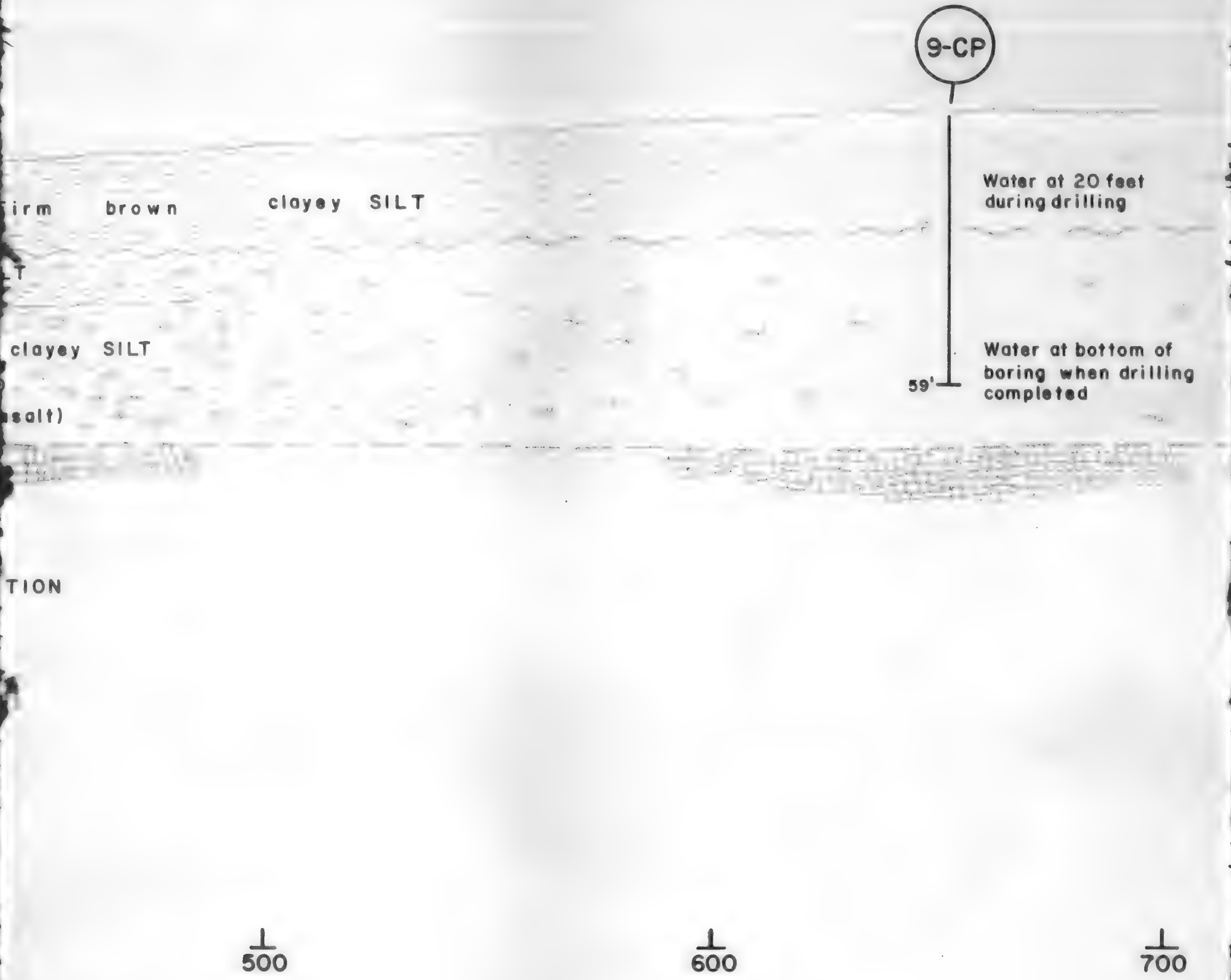
GEOLOGIC CROSS-SECTION
B–B'

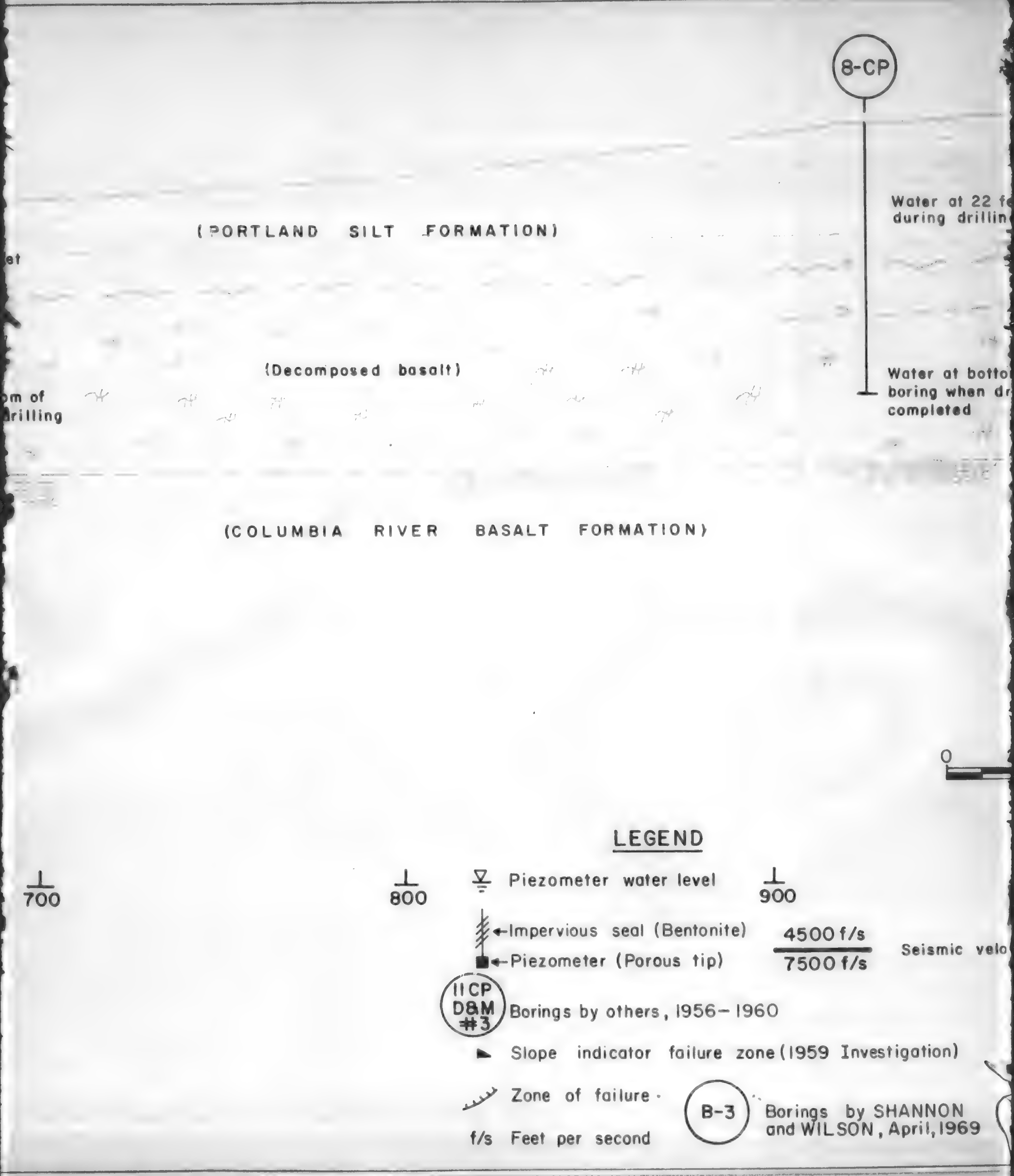
SHANNON & WILSON, INC.
PORTLAND, OREGON

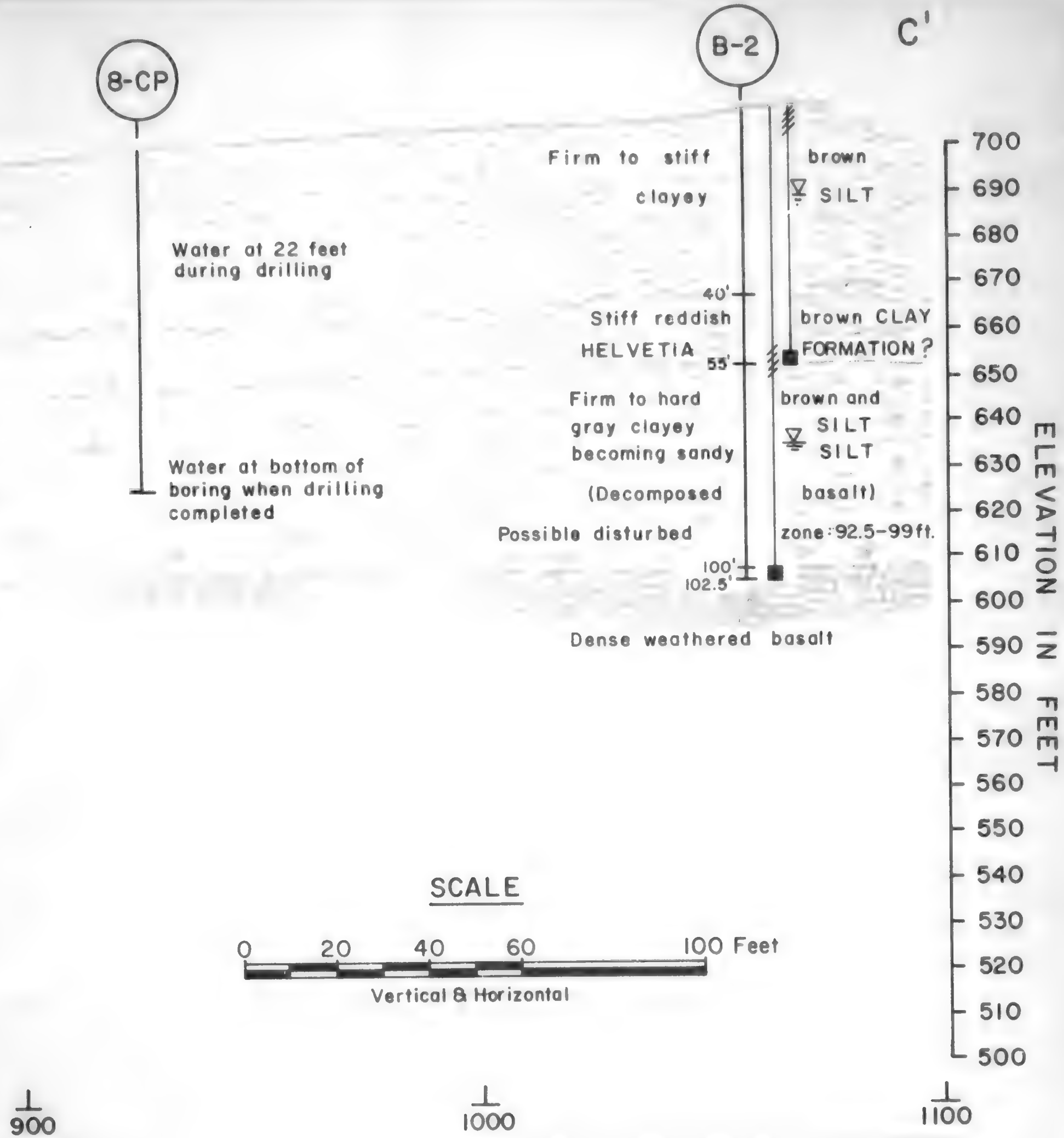
FIG. 22


C
ELEVATION IN FEET
ACTIVE MOVEMENT
(Decomposed basalt)
2500 f/s
8000 f/s
Seismic Interface S-3


B-1
FILL
9'
17'
30'
60'
83'
Firm
Firm rust brown clayey SILT
Decomposed basalt
Stiff to hard brown and gray clayey
becoming very fine SAND
(Decomposed basalt)
Hard to dense weathered
brown to gray basalt
?
?
COLUMBIA RIVER BASALT FORMATION
200
300
400


9-CP
Water at 20 feet during drilling
irm brown clayey SILT
LT
clayey SILT
Water at bottom of boring when drilling completed
59'
salt)
TION
500
600
700


8-CP
Water at 22 fe
during drillin
(PORTLAND SILT FORMATION)
et
(Decomposed basalt)
om of
drilling
Water at botto
boring when dr
completed
(COLUMBIA RIVER BASALT FORMATION)
0
LEGEND
700
800
900
Piezometer water level
Impervious seal (Bentonite)
Piezometer (Porous tip)
4500 f/s
7500 f/s
Seismic velo
11 CP D&M #3
Borings by others, 1956-1960
Slope indicator failure zone (1959 Investigation)
Zone of failure
B-3
Borings by SHANNON and WILSON, April, 1969
f/s Feet per second



C'
8-CP
Water at 22 feet during drilling
Water at bottom of boring when drilling completed
B-2
Firm to stiff brown clayey SILT
40'
Stiff reddish brown CLAY
HELVETIA FORMATION ?
55'
Firm to hard brown and gray clayey SILT becoming sandy SILT
(Decomposed basalt)
Possible disturbed zone: 92.5-99 ft.
100'
102.5'
Dense weathered basalt
ELEVATION IN FEET
700
690
680
670
660
650
640
630
620
610
600
590
580
570
560
550
540
530
520
510
500
SCALE
0
20
40
60
100 Feet
Vertical & Horizontal
900
1000
1100

N)

ND

evel

entonite)

tip)

4500 f/s / 7500 f/s Seismic velocity interface

956- 1960

ailure zone (1959 Investigation)

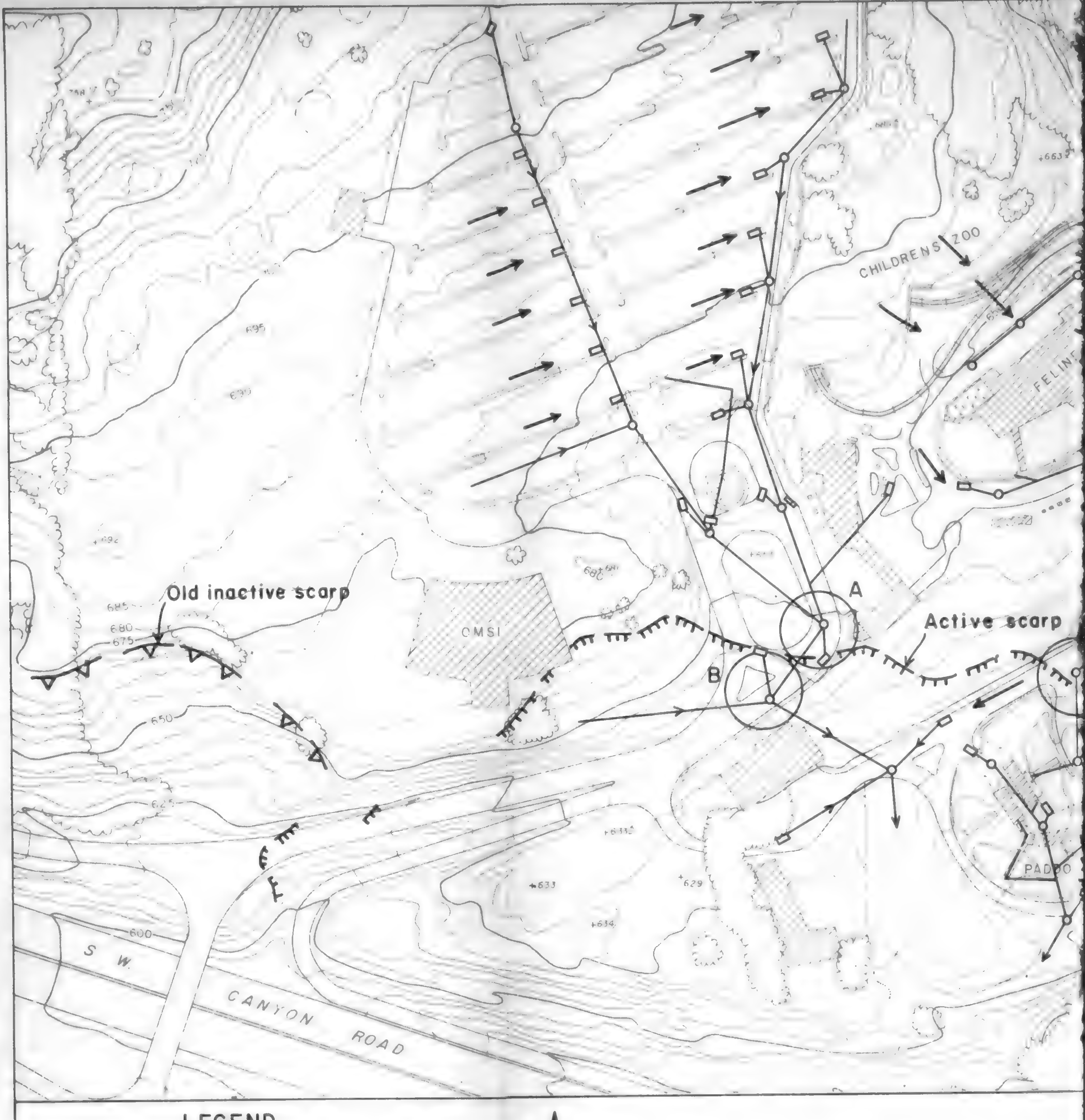
B-3 Borings by SHANNON and WILSON, April, 1969

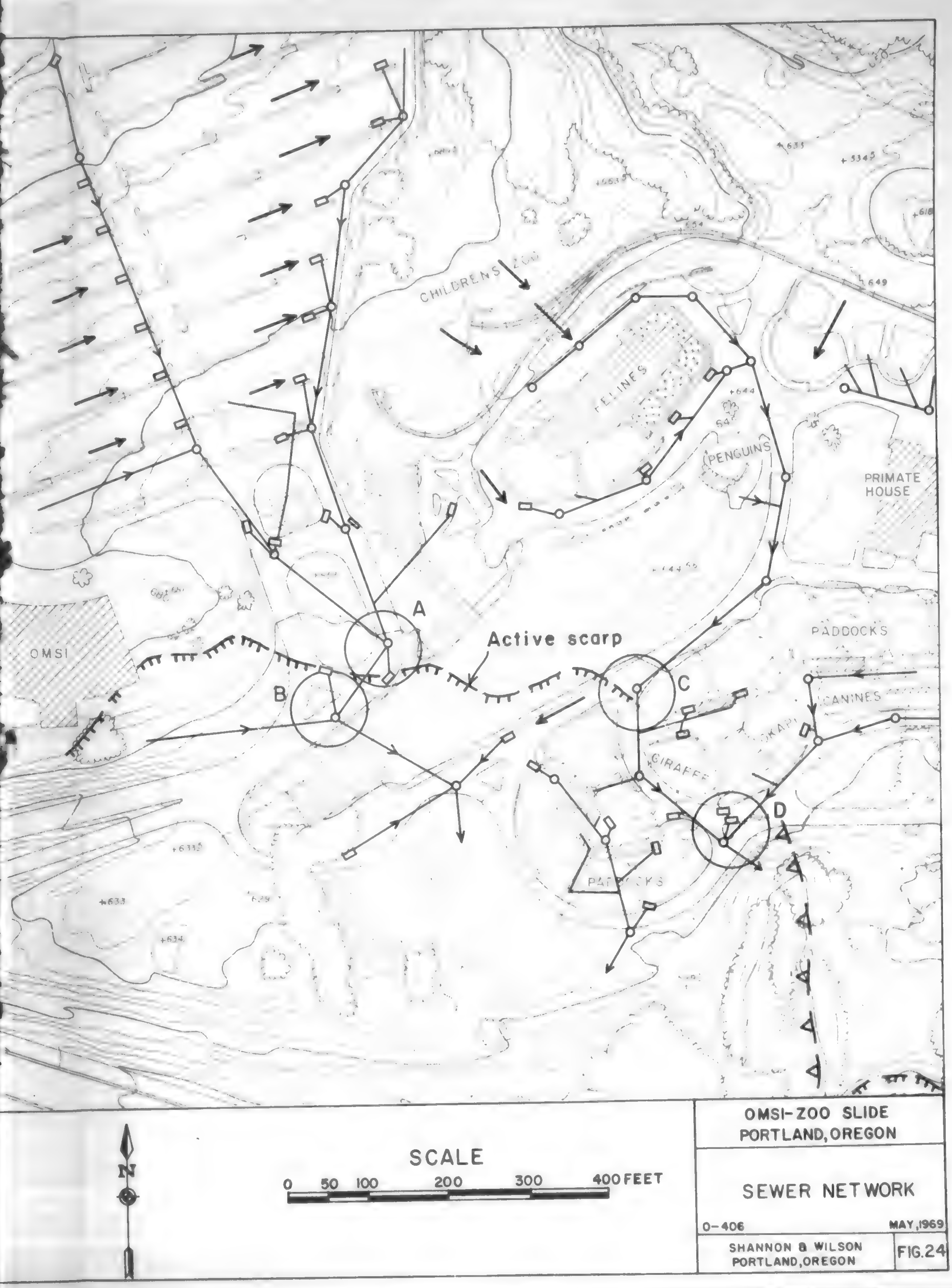
OMSI-ZOO SLIDE
PORTLAND, OREGON

GEOLOGIC CROSS-SECTION
C - C'

SHANNON & WILSON, INC.
PORTLAND, OREGON

FIG. 23


Old inactive scarp
685
680
675
650
625
600
695
OMSI
A
B
Active scarp
CHILDRENS ZOO
FELIN
PADDO
+663
+633
+629
+634
S. W. CANYON ROAD
LEGEND
Manhole
Catch basin
Direction of storm runoff
Sewer line
N
SCALE
0 50 100 200 300 400 FE


CHILDRENS ZOO
FELINES
PENGUINS
PRIMATE HOUSE
OMSI
A
B
C
D
Active scarp
PADDOCKS
CANINES
OKAPI
GIRAFFE
PADDOCKS
+635
+5345
+618
+649
+644
+6335
+633
+634
SCALE
0
50
100
200
300
400 FEET
N

OMSI-ZOO SLIDE
PORTLAND, OREGON

SEWER NETWORK

0-406 MAY, 1969

SHANNON & WILSON
PORTLAND, OREGON

FIG. 24

APPENDIX

OMSI-ZOO SLIDE
GEOPHYSICAL INVESTIGATION

The geophysical investigation conducted by Geo-Recon, Inc. of Seattle, Washington, consisted of a seismic refraction survey along three traverses, two of them extending upslope from the toe of the slide northerly for a distance of about 1275 feet (S-1 and S-2) and the other traverse located along the northern edge of the Canyon Road highway for a distance of 1000 feet (S-3).

The purpose of the seismic investigation was to provide all of the detailed information that could be obtained by the seismic method, with special emphasis on the depths to firm, unweathered bedrock. In order to produce as much detail as possible, especially at relatively shallow depths, seismic detectors were closely spaced along the traverses, with a maximum spacing of 25 feet. Depths to the refracting srufaces were determined beneath each detector wherever possible. Seismic shock waves were generated by falling weights and by small explosive charges.

The results of the seismic investigation are shown on the seismic velocity profiles, Fig. 1A. Five subsurface zones were identified by their characteristic average velocities. The classification of these zones, shown below, is based primarily upon a comparison between the seismic and boring data, except for the deepest horizon which was not reached by drilling.

VELOCITY feet/second	SUGGESTED CLASSIFICATION
800	Loose, shallow surface layer of silt.
2500	Loose, silty-clayey material; possible disturbed material.

VELOCITY feet/second	SUGGESTED CLASSIFICATION
4500-5250	Clay (decomposed basalt).
7000-8000	Firm material, probably weathered basalt.
12,500	Unweathered basalt.

The 800 f/s surface layer is generally quite shallow, but appears to be deeper along the active portion of the slide where it has a maximum thickness of about 15 feet. It is not certain whether this material is related to the so-called "seismic weathered layer" or represents a surface layer of silt.

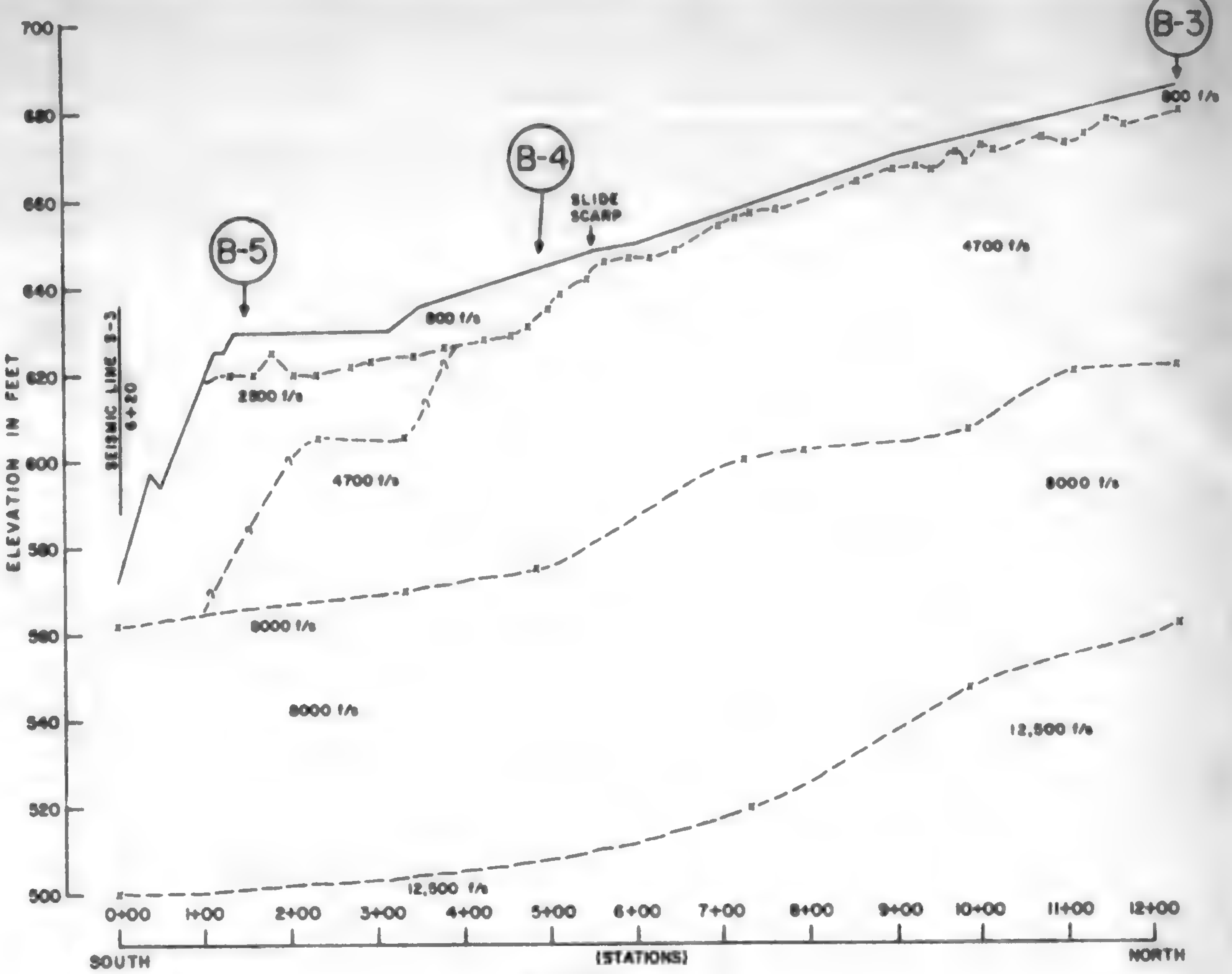
The 2500 f/s zone was found only along the lower portions of traverse S-1 (western traverse) and S-2 (eastern traverse) but it occurred throughout the full length of S-3, located along the highway. It was found to be thickest along the toe of the slide on S-1 although its thickness could not be exactly determined in this area. Its low velocity, coupled with its position at the toe of the slide, suggests that this is a highly disturbed, unconsolidated material.

An uphole velocity test was made to a depth of about 75 feet at Station 2+57 on S-2. At this location the average velocity of materials between depths 10 feet and 75 feet was 4750 f/s. The log of boring B-8, located about 80 feet south of the uphole drill hole station, shows a micaceous, clayey silt and clay from 6 feet to 26 feet and clay from 26 feet to 48 feet depths. Apparently the velocity of the silty clay and clay is identical and, for this reason, the material is classified simply as clay. This silt-clay zone was found to extend throughout both traverses S-1 and S-2 but was not detected along S-3.

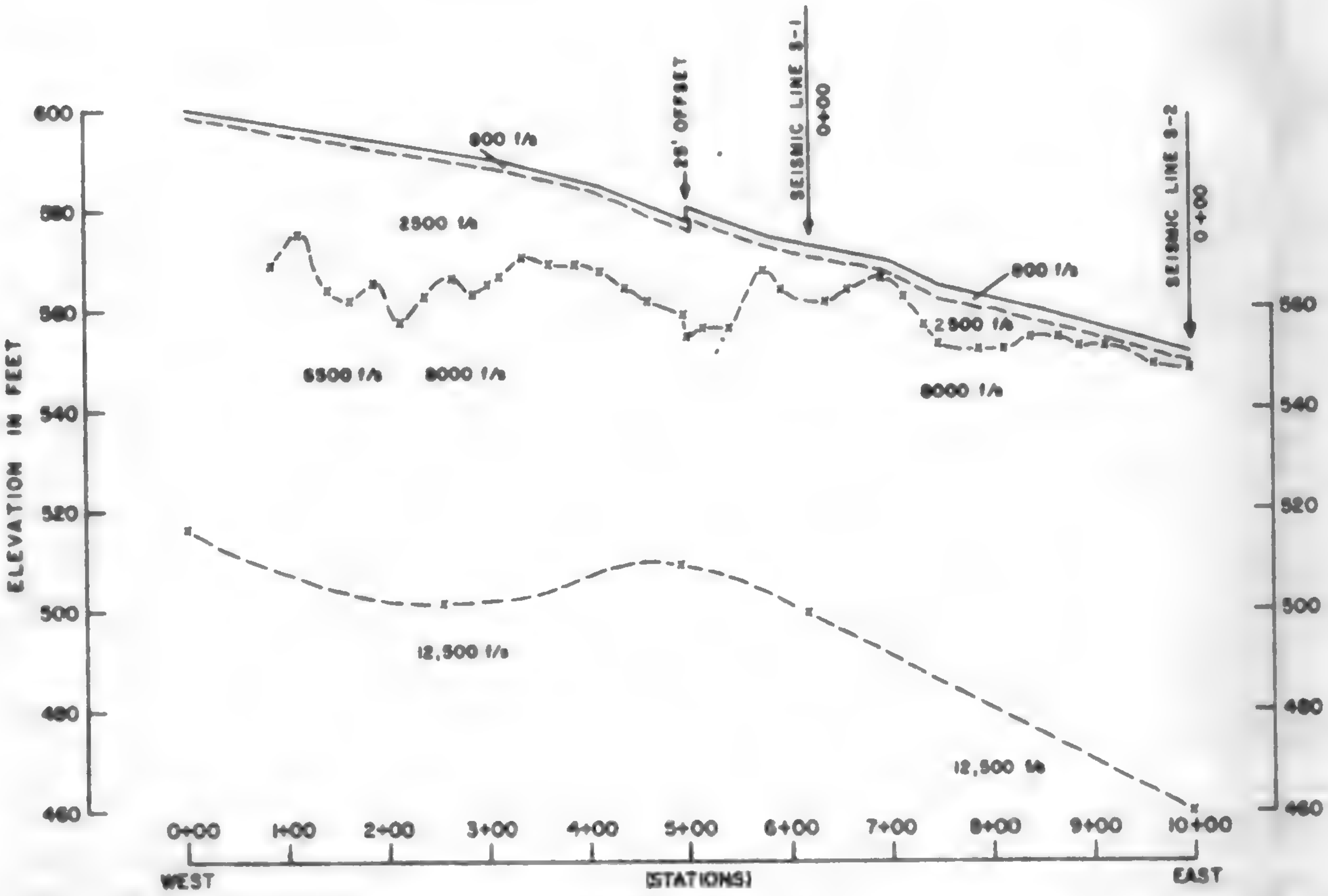
A firm zone, having a velocity range from 7000 to 8000 f/s, was detected along all traverses and coincides with a high blow-count material found at depth in most of the borings. The drill logs indicate that this zone consists of weathered basalt and most of the borings bottomed in this material. In seismic line, S-2, the upper surface of the 8000 f/s velocity material coincides, in general, with the zone of failure as detected by the Slope Indicator installations. On the other hand, such a correlation was not present in S-1, except near the toe of the slide. The seismic refractions from this higher velocity material show that it has a uniform, gently sloping surface towards the canyon.

The deepest material detected by the seismic investigation, velocity 12,500 f/s, was found along all traverses but its depths could be determined only at widely separated points. The high velocity of this zone is more or less "standard" for unweathered basalt. It will be noted that the interface between the weathered and unweathered basalt has about the same gentle slope towards the canyon as does the surface of the weathered basalt.

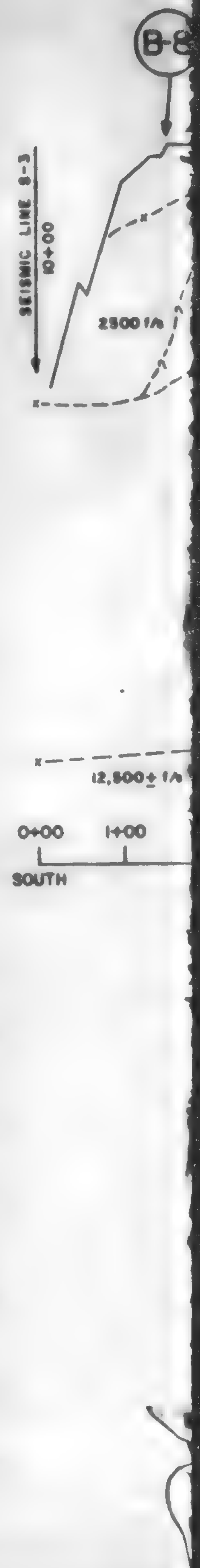
In summary, the geophysical investigation presented herein provides significant subsurface information between borings and supplemental information concerning the sequence of subsurface materials with depth. The change in material characteristics as reflected by velocity changes correlates well in some areas with the material involved in the slide and the more competent material below, as shown in the Geologic Cross-Sections in the main report.

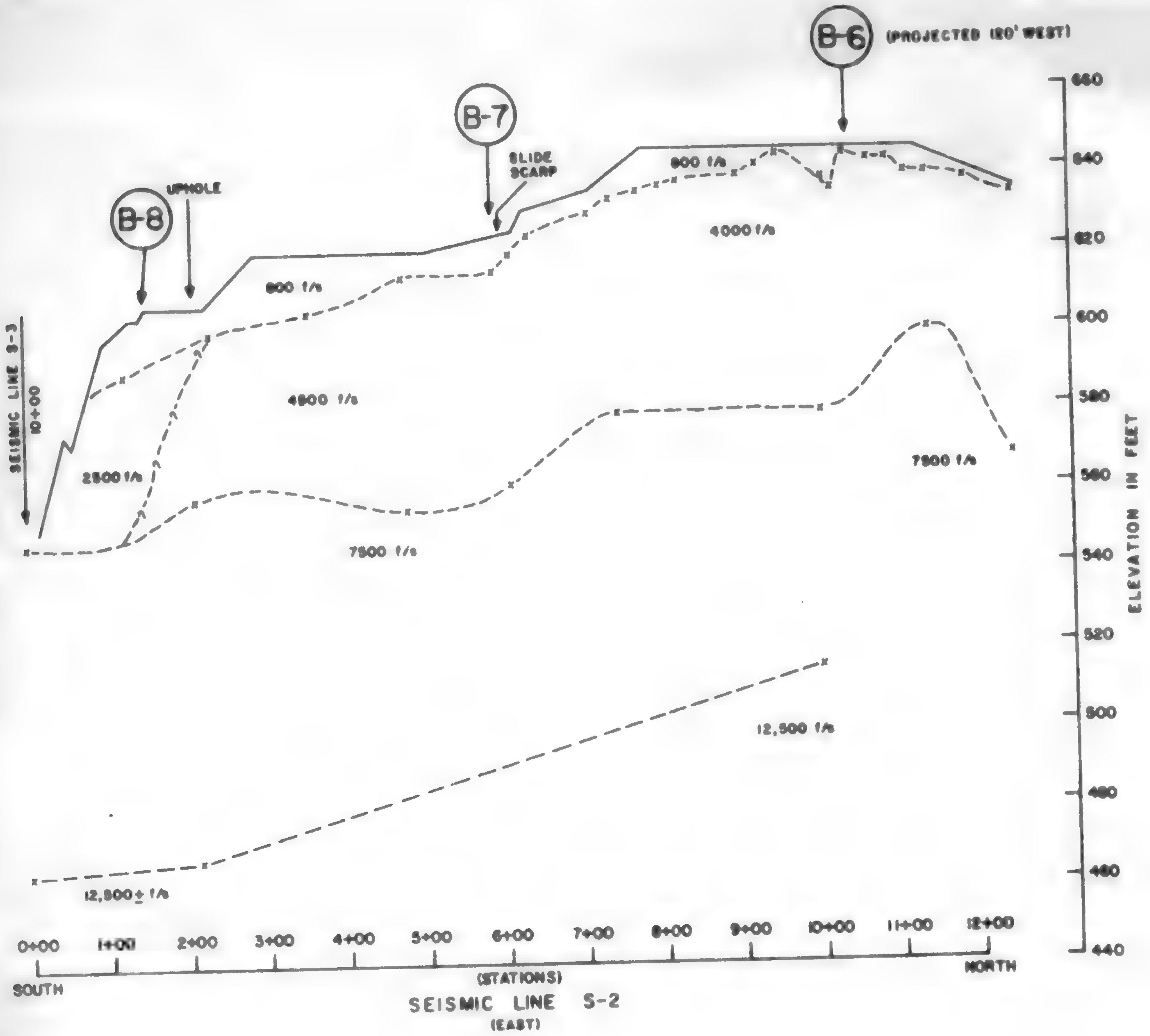


SEISMIC LINE S-1
(WEST)



SEISMIC LINE S-3





LEGEND

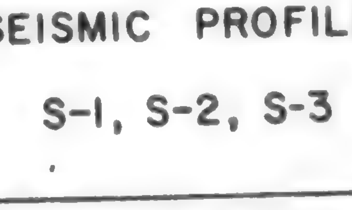
x COMPUTED DEPTH POINT

– – – ASSUMED FORMATIONAL BOUNDARY

f/s AVERAGE SEISMIC VELOCITY

SUGGESTED CLASSIFICATION

VELOCITY f/s	MATERIAL
800	LOOSE SURFACE LAYER (SILT-CLAY)
2500	LOOSE SLIDE DEBRIS
4000-4700	CLAY
6500-8000	ALTERED VOLCANICS
12,500+	FIRM UNALTERED VOLCANICS


SCALE IN FEET
0
50
100
200
300
HORIZONTAL
0
10
20
40
60
VERTICAL

OMSI-ZOO SLIDE
PORTLAND, OREGON

SEISMIC PROFILES

S-1, S-2, S-3

0-406

APRIL, 1969

GEO-RECON, INC.
SEATTLE, WASHINGTON

FIG. 1A

20-4223 Siuslaw River Bridge Section 1968
on Oregon Coast Hwy. at Florence.
#7187 (Pier Replacement)

RECEIVED
DEC 3 - 1969

FOR FILING

[illegible]

[illegible]

OFFICE PHONE FA 5-4179

RESIDENCE PHONE FA 5-4182

LARSON CONSTRUCTION CO.
P. O. Box 120
ASTORIA, OREGON

December 1, 1969

Oregon State Highway Division
Highway Building
Salem, Oregon 97310

Att: C. W. Head
Assistant Secretary

Gentlemen:

We refer to your letter of November 26, 1969.

We tentatively accept the 25-day extension without assessment except that we wish to hold open a final decision on the 10 day liquidated damages pending further study and possible meeting to discuss your findings and recommendations.

Very truly yours,

LARSON CONSTRUCTION CO.

R C Larson

R. C. Larson
President

RCL:io
cc- Nordahl Towboat Co.

Copies sent
To L. H. Young
F. D. Morgan
12-2-69

RECEIVED
NOV 28 1969
FOR FILING

20-4223
1187

November 28, 1969

Rathbone, King & Seeley
310 S.W. 4th Street
Portland, Oregon 97204

Gentlemen:

A post-final payment for $1,875 will be made to Larson Construction Company on Contract No. 7187 for pier protection replacement of the Siuslaw River Bridge (M.P. 190.98) on the Oregon Coast Highway in Lane County as soon as the warrant is prepared.

The total amount paid on this contract will be $78,951.83 including the post-final payment. Of the total, $1,121.80 is for force account.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

aj

cc Larson Construction Co.
3196 Marine Drive
Astoria, Oregon 97103

Martin Knutsen & Son
375 12th
Astoria, Oregon 97103

bc Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Herr
Carroll T. Keasey

RECEIVED
DEC 2 4 1969

FOR FILING

20-4223
7187

#9

November 26, 1969

Larsen Construction Company
3196 Marine Drive
Astoria, Oregon 97103

Gentlemen:

The State Highway Commission at its meeting on November 18, 1969, considered your request for an extension of 36 calendar days on Contract No. 7187 for pier protection replacement on the Siuslaw River Bridge on the Oregon Coast Highway in Lane County.

Careful consideration was given to the reasons you submitted. However, in light of the available facts and the provisions of the contract, the Commission granted you a 25-day extension without assessment of liquidated damages.

If there are pertinent facts which have not yet been considered, you should contact the Resident Engineer, the Division Engineer, or the Construction Engineer in the Salem Office.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By
C. W. Head, Assistant Secretary

flm
cc F. D. Morgan
I. D. Marchant
V. E. Skoog
R. D. Asburry
George Danforth

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request
FOR
Extension of Time to Complete Contract

Investigation has been completed regarding the request (see reverse side) for an extension of time within which to complete the following project:

Contract No. 7187 Contractor Larson Contruction Co.

Highway Oregon Coast

Section Siuslaw River Bridge

Kind of Work Pier Protection Replacement

It is recommended that such extension be granted as requested under the following terms and conditions:

See recommendation on second request attached.

Recommended for Approval:

Division Engineer

Construction Engineer or Bridge Engineer

&
Asst
State Highway Engineer

Contract No. 7187
Project designation (State)
State—Federal
Date awarded October 14, 1968
Work started February 18, 1969
Per cent completed 95% July 7, 1969
Date
Specified ~~xxxxxxxxxxx~~ calender days 240
Previously extended to
Extension requested to

#1

Form E-320—5M—7-55

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OREGON STATE HIGHWAY DEPT.
BRIDGE DIVISION
SEP 12 1969
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OREGON STATE HIGHWAY COMMISSION

Contractors Request for Extension of Time to Complete Construction Contract

Oregon State Highway Commission,
Salem, Oregon.

Date July 3, 1969

Gentlemen:

We, the undersigned, respectfully request an extension of 21 days time, from July 3, 1969, to July 24, 1969, within which to complete our Contract No. 7187, described as follows:

Pier Protection Replacement on the Siuslaw River Bridge

The above request is based upon the following reasons:

Our subcontractor, Nordahl Tow Boat Company, who is placing the riprap rock finds he can not finish his work sooner than three additional weeks.

Respectfully submitted,

LARSON CONSTRUCTION CO.
Contractor

By R E Larson
President

CONSENT OF SURETY

Date July 3, 1969

We, PEERLESS INSURANCE COMPANY, as surety on the bond guaranteeing the completion of the contract above named and listed, hereby join in and consent to said request for extension of time, and hereby agree to remain fully bound as surety in all respects as if the latest extended date hereinabove stated had been stipulated in the original agreement.

Ford Knutsen
Ford Knutsen
Attorney-in-fact

(SEAL)

MARTIN KNUTSEN & SON
BY Ford Knutsen
Resident Agent

State Printing 87499

RECEIVED
OREGON STATE HIGHWAY DEPT.
BRIDGE DIVISION
SEP 2 1969
AM PM
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OREGON STATE HIGHWAY COMMISSION

Contractors Request for Extension of Time to Complete Construction Contract

Oregon State Highway Commission,
Salem, Oregon.

Date July 3, 1969

Gentlemen:

We, the undersigned, respectfully request an extension of 21 days time, from July 3, 1969, to July 24, 1969, within which to complete our Contract No. 7187 described as follows:

Pier Protection Replacement on the Siuslaw River Bridge

The above request is based upon the following reasons:

Our subcontractor, Nordahl Tow Boat Company, who is placing the riprap rock finds he can not finish his work sooner than three additional weeks.

Respectfully submitted,

LARSON CONSTRUCTION CO.
Contractor

By
President

CONSENT OF SURETY

Date July 3, 1969

We, PEERLESS INSURANCE COMPANY, as surety on the bond guaranteeing the completion of the contract above named and listed, hereby join in and consent to said request for extension of time, and hereby agree to remain fully bound as surety in all respects as if the latest extended date hereinabove stated had been stipulated in the original agreement.

Ford Knutsen
Ford Knutsen Attorney-in-fact

(SEAL)

MARTIN KNUTSEN & SON
BY Ford Knutsen
Resident Agent

State Printing 87499

RECEIVED
OCT 24 1969
FOR FILING
20-4223
7147

October 23, 1969

Oregon State Highway Commission

Gentlemen:

Request for Extension of Time
No. 9
November 18, 1969 meeting

Larson Construction Company, contractor for the construction of the pier fenders at the Siuslaw River Bridge on the Oregon Coast Highway in Lane County, Contract 7187, has requested (two requests, one dated July 3, 1969, and another dated August 14, 1969) a total of 36 calendar days in which to complete the contract work without assessment of liquidated damages. The contractor claims extra work in the form of an additional quantity of riprap ordered as his reason for failure to complete the work on time.

The contract allotted 240 calendar days to complete the work which forecast a completion date of June 26, 1969. The work was completed July 31, 1969, with 275 calendar days charged. This is an overrun of 35 calendar days.

The contractor's operations were delayed four days in the performance of extra work in connection with the timber portions of fenders, ten days in placing the extra riprap ordered, and eleven days because of a plan change which involved pulling existing piles.

I recommend that the contractor be granted a 25-day extension without assessment of liquidated damages and that he be assessed liquidated damages for the remaining 10 days consumed. This assesses the contractor $750.

This matter will be on the agenda for your consideration at the November 18 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer
Ivan Merchant
R. D. Asburry

cc: Floyd Query
R. L. Porter
Tom Edwards
V. D. Wolfe
V. E. Skoog
F. D. Morgan

CAG:dh sr

RECEIVED
OREGON STATE HIGHWAY DEPT.
BRIDGE DIVISION
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OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request

FOR

Extension of Time to Complete Contract

Investigation has been completed regarding the request (see reverse side) for an extension of time within which to complete the following project:

Contract No. 7187 Contractor Larson Construction Co.

Highway Oregon Coast M.P. 190.98

Section Siuslaw River Bridge

Kind of Work Pier Protection Replacement

It is recommended that such extension be granted as requested under the following terms and conditions:

~~Recommend an extension of 14 days without assessment of liquidated damages based on prorata of time with overrun of quantities vs. contract.~~

~~Assess liquidated damages for remaining 21 days [illegible]~~

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OREGON STATE HIGHWAY DEPT.
BRIDGE DIVISION
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Recommend 4 days extra on account of extra work on timber, 10 days extra on account of extra riprap, and 11 days extra because of plan change which involved pulling existing piling.
Assess liquidated damages for remaining 10 days.

Recommended for Approval:

R. D. Asbury
Division Engineer

Ivan O. Merchant
[illegible]

Asst
State Highway Engineer

Contract No. 7187
Project designation 20-4223 (State)
State- Federal
Date awarded Oct. 14, 1968
Work started Feb. ~~18~~ 2, 1969
Per cent completed 100% as of July 31, 1969
Date
Specified completion date 240 Cal da ~~June 26, 1969~~
Previously extended to — • —
Extension requested to Cal Da ~~July 31, 1969~~ ~~35~~ 35

~~35~~ Cal, Da
= 35

[illegible]

OREGON STATE HIGHWAY COMMISSION

Contractors Request for Extension of Time to Complete Construction Contract

Oregon State Highway Commission,
Salem, Oregon.

Date August 14, 1969

Gentlemen:

We, the undersigned, respectfully request an extension of 15 days time, from July 16 1969, to July 31, 1969, within which to complete our Contract No. 7187, described as follows:

Bridge Pier Protection Replacement on Siuslaw River Bridge

The above request is based upon the following reasons:

Extra rock delivered

RECEIVED
OREGON STATE HIGHWAY DEPT.
BRIDGE DIVISION
AM SEP 12 1969 PM
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Respectfully submitted,

Larson Construction Co.
Contractor

By , President
R. C. Larson

CONSENT OF SURETY

Date August 14, 1969

We, PEERLESS INSURANCE COMPANY, as surety on the bond guaranteeing the completion of the contract above named and listed, hereby join in and consent to said request for extension of time, and hereby agree to remain fully bound as surety in all respects as if the latest extended date hereinabove stated had been stipulated in the original agreement.

Eugene Knutsen
Attorney-in-fact

(SEAL)

MARTIN KNUTSEN & SON
Resident Agent

State Printing 87199

OREGON STATE HIGHWAY COMMISSION

Contractors Request for Extension of Time to Complete Construction Contract

Oregon State Highway Commission,
Salem, Oregon.

Date August 14, 1969

Gentlemen:

We, the undersigned, respectfully request an extension of 15 days time, from July 16, 1969, to July 31, 1969, within which to complete our Contract No. 7187, described as follows:

Bridge Pier Protection Replacement on Siuslaw River Bridge

The above request is based upon the following reasons:

Extra rock delivered

RECEIVED
OREGON STATE HIGHWAY DEPT.
BRIDGE DIVISION
AM SEP 12 1969 PM
7,8,9,10,11,12,1,2,3,4,5,6

Respectfully submitted,

Larson Construction Co.
Contractor

By R C Larson, President
R. C. Larson

CONSENT OF SURETY

Date August 14, 1969

We, PEERLESS INSURANCE COMPANY

, as surety on the bond guaranteeing the completion of the contract above named and listed, hereby join in and consent to said request for extension of time, and hereby agree to remain fully bound as surety in all respects as if the latest extended date hereinabove stated had been stipulated in the original agreement.

Eugene J Knutsen
Eugene Knutsen
Attorney-in-fact

(SEAL)

MARTIN KNUTSEN & SON
Resident Agent

State Printing 87499

RECEIVED
SEP 24 1969
FOR FILING

20-4223

7187

September 24, 1969

Rathbone, King & Seeley
310 S. W. 4th Street
Portland, Oregon 97204

Gentlemen:

Contract No. 7187 awarded to Larsen Construction Company for pier protection replacement on the Siuslaw River Bridge of the Oregon Coast Highway in Lane County was completed on July 31, 1969, and accepted by the Highway Commission on September 23, 1969.

Final payment in the amount of $4,145 will be released to the contractor after October 1, 1969. The total contract amount is $77,076.83 including $1,121.80 for work performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fkn

cc Larsen Construction Co.
3196 Marine Drive
Astoria, Oregon 97103

Martin Knutsen & Son
375 12th
Astoria, Oregon 97103

C. T. Keasey
Frank Morgan
V. E. Skoog
Attn: John Herr

RECEIVED
SEP 24 1969
FOR FILIN

20-4223
7187

September 23, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed July 31, 1969, on Contract No. 7187. The contract was with Larson Construction Company and was for pier protection replacement on the Siuslaw River Bridge Section of the Oregon Coast Highway in Lane County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective September 23, 1969, and that you concur in this procedure at the Commission meeting on September 30.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
F. B. Klaboe
V. D. Wolfe
V. E. Skoog
Ivan Merchant
F. D. Morgan
L. H. Young
C. T. Kessey

srb sr

cast. office 20-4223 C

FORM E-1 (REV 12-64) 7187

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: Siuslaw River Bridge

WEEK ENDING: ~~[illegible]~~

SECTION PREFIX: 20-4223

HIGHWAY: Oregon Coast

COUNTY: Lane

KIND OF WORK: Pier Protection Replacement

NAME OF JOB: Siuslaw River Bridge

CONTRACTOR: Larson Construction Co.

CONTRACT NUMBER: 7187

FEDERAL AID PROJECT NUMBER: - - - (state)

DATE OF CONTRACT: October 14, 1968

DATE WORK STARTED: Not yet

ESTIMATED COMPLETION DATE:

SPECIFIED WORK DAYS:

WORK DAYS USED:

SPECIFIED CALENDAR DAYS: 240

CALENDAR DAYS USED: 109

AVERAGE FORCE ON PROJECT FOR THE WEEK

MEN: SUPERVISION:

SPECIFIED COMPLETION DATE:

PERCENT OF TIME ELAPSED: 45

PROJECT AUTHORIZATION: $94,920.50

PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 0

EXCLUSIVE OF ENGINEERING: $86,630.50

ENGINEERING AUTHORIZATION: $8,290.00

PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION:

ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $

ENGINEERING COST TO DATE: $

DATE PROJECT WAS COMPLETED:

ESTIMATED PERCENT OVERRUN / UNDERRUN: %

PERCENT OF AUTHORIZATION: %

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE	MAT'L PROD		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)					
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE					
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					

HOURS PER SHIFT

EQUIPMENT USED DURING THE WEEK:

Equipment being assembled now.

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY				
MONDAY				
TUESDAY				
WEDNESDAY				
THURSDAY				
FRIDAY				
SATURDAY				

RECEIVED
FEB 13 1969
CONSTRUCTION DIVISION

Routing
Walker
Pease
Swan
Glenn
Litchfield
Gallagher

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY	Events to date
MONDAY	Jan. 17th- Had card from contractor that he expected to start work at Florence about Jan. 22nd Jan. 23rd- Found no sign of the contractor at or near Florence Jan. 26 to 31- Snow halted nearly all movement on roads, but I checked contractor's Astoria office. He was delaying until weather cleared.
TUESDAY	Feb. 3-14- Checked at Florence every other day. The 6th, found 3 men assembling a crane. The 12th, found a load of piling and a load of treated timbers at the crane site. The 14th, found 2 men building tool shed. They expect to start work on 18th.
WEDNESDAY	Meantime, I had looked for office space. Found one place which would do, but poor building and location. May have to use it as there seems to be nothing better.
THURSDAY	
FRIDAY	
SATURDAY	

REMARKS

SIGNED LOCATION Florence

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
DAVID B. SIMPSON, MEMBER
PORTLAND
FRED W. HILL, MEMBER
HELIX
FLOYD QUERY, SECRETARY
SALEM

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

FORREST COOPER
STATE HIGHWAY ENGINEER
R. L. PORTER
DEPUTY STATE HWY. ENGR.
G. E. ROHDE
CHIEF COUNSEL

OCT 30 1968
FOR FILING

20-4223
1187

October 30, 1968

Larson Construction Co.
3196 Marine Drive
Astoria, Oregon 97103

Gentlemen:

We enclose for your files a fully executed copy of the following described contract which was awarded to you by the State Highway Commission:

> Contract No. 7187 for pier protection replacement on the Siuslaw River Bridge (M.P. 190.98) on the Oregon Coast Highway in Lane County.

A copy of this contract is also being sent to the surety on your performance bond.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

wln

Encl.

cc Rathbone, King & Seeley
Board of Trade Building
Portland 4, Oregon

Martin Knutsen & Sons
375 12th
Astoria, Oregon

bc L. H. Young
F. D. Morgan
I. D. Merchant
C. T. Keasey
George Danforth

RECEIVED
SEP 20 1968
FORM 2-30 50M 10-65

26-4225
7117

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
September 20, 1968

SUBJECT: Agreement Status
October 3 Bid Letting

To: Mr. F. B. Klaboe ✓
Assistant State Highway Engineer

OFFICE

1. BAKER COUNTY: Lime Section of the Old Oregon Trail about 37 miles southeast of Baker. Clear*
   Throughway agreement signed by County.
   *Right of way clearance anticipated October 3, 1968.
   Permit of Entry received from railroad.

2. LANE COUNTY: Siuslaw River Bridge on the Oregon Coast Highway at Florence. Clear
   Nothing required.

3. MULTNOMAH COUNTY: Highlands Interchange-Vista Ridge Tunnel Section of the Sunset Highway in Portland. Clear*
   Throughway agreement signed by city of Portland and Multnomah County.
   *Utility clearance anticipated by October 3, 1968.

DN Harwell
D. N. Harwell, Assistant Engineer
County and City Division

DNH:eb

cc R. L. Porter L. H. Young
Victor Wolfe R. N. Chase
Floyd Query C. P. Nelson

[illegible] SEP 20 1968
OFFICE OF
[illegible]

COMMISSIONERS
JOSEPH W. SMITH, KLAMATH FALLS
CHAIRMAN
J. PAT METKE, BEND
VICE CHAIRMAN
JOHN P. AMACHER, WINCHESTER
WAYNE E. PHILLIPS, BAKER
GEORGE L. HIBBARD OREGON CITY

RECEIVED
AUG 23 1968
F

20-4223
7187

MAILING ADDRESS
P. O. BOX 3503
PORTLAND, OREGON 97208

STATE OF OREGON
OREGON STATE GAME COMMISSION
1634 S. W. ALDER STREET
PORTLAND

August 21, 1968

Routing
Morgan
Decker
Bond
Barbee
Walker
Glenn
Swan
Pease
Morelock
Trout
Scott
Wills
Litchfield
Olson

RECEIVED
AUG 1968
CONSTRUCTION
DIVISION

State Highway Engineer
State Highway Department
Salem, Oregon 97310

Attention Mr. F. D. Morgan

Dear Sir:

We are replying to your letter of August 19, 1968, which enclosed the plan title sheet for:

Siuslaw River Bridge Pier Protection Replacement
Oregon Coast Highway
Lane County

We do not anticipate any damage to wildlife resources as a result of this construction, and the project is improved.

There is a considerable sport fishery during late fall in that section of the river. Access for sport fishing craft through the construction area should be provided.

The opportunity to review the plans is appreciated.

Very truly yours,

P. W. SCHNEIDER
DIRECTOR

by R. O. Koski
R. O. Koski
Chief of Liberations

ROK:js

cc: Director, OFC

8-22-68 Copies to: F. B. Klaboe
L. H. Young
Frank Hall
T. C. Roake
George Wills
C. T. Keasey (2)
fw

RECEIVED
AUG 22 1968
OFFICE OF
STATE HIGHWAY ENGINEER

FORM 5-123

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
FRED W. HILL, MEMBER
PENDLETON
THADDEUS B. BRUNO, MEMBER
PORTLAND

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

RECEIVED
SEP 11 1968

Maint
Bridges
Draw

AUG 20 1968
RECEIVED
FISH COMMISSION
_Director________
_Asst. Director________
_Fiscal Officer________
_Spec. Asst.________
_Auditor________
_Licenses________
_Fish Culture________
_Research________
_Engineering CVR
_Water Res.________
_Info-Ed.________
_Surname RUSS
BURT

called Hwy. Main. on 9-8-68, for more details

August 19, 1968

Mr. Robert W. Schoning
State Fisheries Director
Fish Commission of Oregon
307 State Office Building
Portland, Oregon 97201

Dear Sir:

Enclosed is a plan title sheet on a project schedule for contract letting September 12. Would you please give this your special attention and recommendations as soon as possible.

Siuslaw River Bridge Pier Protection Replacement
Oregon Coast Highway
Lane County

This data is forwarded to comply with Modification No. 1 dated May 19, 1965 of our Memorandum of Understanding dated September 12, 1963.

NOTED
F. B. KLABOE

9-10-68 Copies to:
F. B. Klaboe
L. H. Young
Frank Hall
T. C. Roake
George Wills
C. T. Keasey (2)
fs

Very truly yours,

Forrest Cooper
State Highway Engineer

By

F D Morgan
F. D. Morgan
Construction Engineer

RECEIVED
SEP 11 1968
OFFICE OF
STATE HIGHWAY ENGINEER

SNR 9-9-68

Enc.

Dear Mr. Morgan

Mr. Anderson, bridge supt, indicated by phone that job consists of driving piles + placing sheeting thus we anticipate no fishery conflicts. The project is approved.

BURT CARNEGIE
Hydraulic Engr.

cc: OGC

24-3650 Automotive Repair Shop, Salem 1968
East Salem Shop Area
#7188

RECEIVED
MAR 5 - 1970
FOR FILING

24-3650

7188

39 (2)
2-3-70

February 10, 1970

M. L. Mills
and Mills Construction Co., Inc.
101 Pine Street, N.E.
Salem, Oregon 97303

Gentlemen:

The State Highway Commission at its meeting on February 3, 1970, granted an extension of the completion date to December 11, 1969, thereby eliminating all liquidated damages on Contract No. 7188 for building the automotive repair shop in Salem.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

sj

cc
- F. D. Morgan
- Ivan Merchant
- V. E. Skoog
- R. D. Asburry
- Don Beecroft

RECEIVED
FEB 11 1970
FOR FILING

24-3650
7188

February 10, 1970

The American Insurance Company
921 S. W. Washington Street
Portland, Oregon 97205

Gentlemen:

A post-final payment for $1,650 will be made to M. L. Mills and Mills Construction Co., Inc., on Contract No. 7188 for building the Automotive Repair Shop on State Street in Salem as soon as the warrant is prepared.

The total amount paid on this contract will be $960,459.77 including the post-final payment. Of the total $807.08 is for force account.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fhm

cc M. L. Mills
and Mills Construction Co., Inc.
101 Pine Street, N.E.
Salem, Oregon 97303

Pioneer Insurance Agency
Pioneer Trust Building
Salem, Oregon 97301
Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Kerr
R. D. Asburry

RECEIVED
JAN 21 1970
FOR FILING

34-3850

7188

January 20, 1970

Oregon State Highway Commission

Gentlemen:

Request for Extension of Time
No. 7
February 3, 1970 meeting

Contract No. 7188 with M. L. Mills and Mills Construction Company, Inc., for the construction of the East Salem Automotive Repair Shop specified that the work be completed by November 30, 1969. The contract was completed at that time except for one item; namely, installation of heat diffusers in the heating system.

In checking out the heating system prior to the specified completion date, it was found that the efficiency of the heating system could be increased by the use of a less restrictive type of heat diffuser. A change order was issued to effect the improvement; however, the time required to secure the alternate equipment delayed actual occupation of the Shop to December 11, 1969. This was a matter beyond the control of the contractor.

The improvement was effected by the contractor's cooperation and suggestion at no cost to the State. As a housekeeping matter, I would recommend that an extension in time be granted to and including December 11, 1969. This waives all liquidated damages.

This matter will be on the agenda for your consideration at the February 3 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Quary
R. L. Porter
Tom Edwards
Victor D. Wolfe
Ivan Merchant

F. D. Morgan
V. E. Skoog
R. D. Asburry

TE:ja sr

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 7188 Contractor M. L. Mills & Mills Construction Company, Inc.

Highway

Section Highway Division Shop Area on East State Street

Kind of Work Automotive Repair Shop

It is recommended that the request for increase in the number of workdays within which to complete said contract be [illegible]r GRANTED. The reasons for such recommendation are as follows:

The contract specified that all work be completed by November 30, 1969. It was all completed except for price agreement work covering the installation of less restrictive defusers on the heating system. The installation of the defusers was completed December 11. This was the only work in progress since November 30 and was clearly an addition to the contract.

Contract No. 7188

Project designation 24-3650 - State
State-Federal

Date awarded Dec. 2, 1968

Work started Dec. 19, 1968

Per cent completed 100% Dec. 11, 1969
Date

Specified Completion Date: Nov. 30, 1969

Actual Completion Date: Dec. 11, 1969

Added time request: 11 days

Recommended for Approval:

Asst Division Engineer

Ivan V. Merchant
Construction Engineer or Bridge Engineer

asst State Highway Engineer

[illegible]

E-330 (Rev.)—5M—9-64

OREGON STATE HIGHWAY COMMISSION

RECEIVED
OREGON STATE HIGHWAY DEPT.
BRIDGE DIVISION
AM DEC 15 1969 PM
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RECEIVED
OREGON STATE HIGHWAY DEPT.
BRIDGE DIVISION
AM JAN 5 1970 PM
7,8,9,10,11,12,1,2,3,4,5,6

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon 97310

Date December 3, 1969

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from 11/30/69 days to 12/15/69 days, within which to complete our Contract No. 7188, without the assessment of liquidated damages. The said contract is described as follows:

Automotive Repair Shop

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows:

to allow time for manufacture and installation of necessary type of heat diffusers.

Respectfully submitted,

M. L. Mills & Mills Construction Co., Inc.
Contractor

By

CONSENT OF SURETY

Date December 4, 1969

We, AMERICAN INSURANCE COMPANY, as surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

Harold R. Schick
Attorney-in-fact
Harold R. Schick

(SEAL)

Pioneer Insurance Agency
Resident Agent

RECEIVED
JAN 9 - 1970

24-3650
7188

January 9, 1970

The American Insurance Company
921 S. W. Washington Street
Portland, Oregon 97205

Gentlemen:

On January 7, 1970, we wrote to you concerning release of final payment on Contract No. 7188 awarded to M. L. Mills and Mills Construction Co., Inc., for building the automotive repair shop on State Street in Salem, Marion County.

Final payment on this contract is $27,961.39 and the total contract amount is $558,809.77 including $807.08 for work performed under force account.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fcn

cc M. L. Mills and Mills Constr. Co., Inc.
101 Pine Street, N.E.
Salem, Oregon 97303

Pioneer Insurance Agency
Pioneer Trust Building
Salem, Oregon 97301

Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Herr
R. D. Asburry

RECEIVED
JAN 7 - 1970
FOR FILING

24-3650

7144

January 7, 1970

Oregon State Highway Commission

Gentlemen:

Work was completed December 11, 1969, on Contract No. 7188. The contract was with M. L. Mills and Mills Construction Company, Inc., and was for construction of the State Highway Automotive Repair Shop in Salem in Marion County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective January 7, 1970, and that you concur in this procedure at the Commission meeting on February 3.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

R. L. Porter
Deputy State Highway Engineer

cc: Floyd Query
Tom Edwards
F. B. Klaboe
V. D. Wolfe
V. E. Skoog
Ivan Merchant
F. D. Morgan
L. H. Young
R. D. Asburry

srb sr

RECEIVED
JAN 8 - 1970
FOR FILING

24-3450
7188

January 7, 1970

American Insurance Company
921 S.W. Washington Street
Portland, Oregon 97205

Gentlemen:

Contract No. 7188 awarded to M. L. Mills & Mills Construction Company, Inc., for building the Automotive Repair Shop on State Street in Salem, Marion County, was completed December 11, 1969, and accepted by the Highway Commission on January 7, 1970.

Final payment will be released to the contractor as soon as payment processing can be completed, but not before January 14, 1970.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

aj

cc M. L. Mills & Mills Constr. Co., Inc.
101 Pine Street, N.E.
Salem, Oregon 97303

Pioneer Insurance Agency
Pioneer Trust Bldg.
Salem, Oregon 97301

bc R. D. Asburry
Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Herr

C

RECEIVED
DEC 3 - 1968
FOR FILING

24-3650
7188

December 3, 1968

M. L. Mills & Mills Construction Co., Inc.
101 Pine Street N.E.
Salem, Oregon 97303

Gentlemen:

Enclosed are three copies of Contract No. 7188 for $559,627.70 awarded to you by the State Highway Commission on December 2, 1968. This contract is for construction of the Automotive Repair Shop on State Street in Salem in Marion County.

Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The completion date on this contract is November 30, 1969.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Enclosures

bc: Mr. Frank Morgan
    Mr. D. J. Barbee
    Mr. I. D. Merchant
    Mr. C. D. Matthis (SIAC)
    Mr. R. D. Asburry
    Mr. Don Beecroft

RECEIVED
AUG 22 1968

FOR FILING

24-3450

7188

Salem, Oregon
August 21, 1968

MISC. CONTRACTS and
AGREEMENTS No. 3566

Department of the Army
Consent for Construction
Shop Building, Salem, Oregon

Mr. Ivan Merchant
Bridge Engineer

I attach a copy of the easement required for the construction of the shop building on the area occupied by the water and sewer lines of the Department of the Army. Please see that the requirements contained therein are complied with in preparing plans and specifications.

The original of the agreement is being forwarded to Mr. Query to complete his file.

Tom Edwards
Assistant State Highway Engineer

TE:ja

Attachment

cc Forrest Cooper
R. L. Porter
Floyd Query (enc.)
Victor D. Wolfe

RECEIVED
JUN 11 1968
FOR FILING

24-3650
7188

June 10, 1968

Mr. Claude D. Albright
Chief, Management and Disposal Branch
Real Estate Division
U. S. Army Corps of Engineers
1519 Alaskan Way South
Seattle, Washington 98134

Re: NPSRE-MD Salem USARC, Oregon

Dear Sir:

On June 6 Mr. Floyd Query, Secretary to the Oregon State Highway Commission, forwarded to you a copy of a consent form permitting the use of land, across which the Army Reserve Center has an easement, for expanding our Salem Shop area.

Since approval of this agreement by the Commission, I have been informed by your Seattle office that the lowering of the pipe will be necessary. This letter shall serve as an addendum to Paragraph 10 of the agreement to provide for four feet of cover over the 6-inch water line.

I wish to assure you that our proposal to reduce the required covering was made only on the basis of retaining the existing cover and the best possible installation in the exact position in which it now resides.

Please enter the necessary revisions in Paragraph 10 of the documents which have been forwarded to you.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

Tom Edwards
Assistant State Highway Engineer

bc Forrest Cooper
R. L. Porter
Victor D. Wolfe
E. S. Hunter (enc.)
Ivan Merchant (enc.)

TE:ja

[illegible]
JUN 24 1968
FOR FILING

24- 36-50

7188

Hi

June 6, 1968

MISC. CONTRACTS and
AGREEMENTS No. 3566

5-29-68

Department of the Army
Seattle District, Corps of Engineers
1519 Alaskan Way South
Seattle, Washington 98134

Attention: Mr. Claude D. Albright
Chief, Management & Disposal Branch
Real Estate Division

Re: NPSRE-MD Salem USARC, Ore.

Gentlemen:

On May 29, the Highway Commission approved the Consent form permitting use of the land of the Army Reserve Center for expanding our Salem Shop Area.

As requested in your letter dated May 7 to Mr. Forrest Cooper, we are attaching the original and two signed copies. Also attached to the Consent is a deed encompassing the area.

After the Consent has been signed on behalf of the Army, please return one fully signed copy to this office for the Commission's files.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

Attachments

cc Mr. Tom Edwards

fkn

RECEIVED
MAY 17 1968

Maint
Bldg & Sites
Salem

May 16, 1968

Oregon State Highway Commission

Gentlemen:

A few years ago, we acquired some property adjacent to our Salem Shops from the Board of Control for the purpose of expanding our shop operation and replacement of our old shop with a new building. This land was encumbered by an easement to the U. S. Army for purposes of water and sewer service to its Salem, Oregon Army Reserve Center facing Airport Road easterly of our shop. These lines traversed the area on which we wished to construct the new shop.

We have worked out an agreement with the Army which will permit this work to go ahead. Under the terms of the agreement, we will replace the six-inch transit water line and the eight-inch sewer line with Class 150 cast iron pipe in that area which will be covered by the new building, thus eliminating any possible future conflict due to maintenance of the lines. The estimated cost is $1,800.

We recommend your approval and request authority for the Secretary to sign the agreements for and on your behalf.

This matter will be on the agenda for your consideration at the May 29 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
Victor D. Wolfe
Ivan Merchant
E. S. Hunter
C. H. Maison
R. D. Asburry

TE:ja jko

S-33(1) Swartz Canyon-Rocky Canyon Sec. 1969
of Crooked R. Hwy., S. of Prine-
#7189 ville. (Grad. & Cil.)

STATE COPY

Monthly transaction number 4-35	FOR R-2A (Rev. 10-68) U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION BUREAU OF PUBLIC ROADS	e Oregon
Project report number 12	**MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT**	County Crook
Modification number 2	(PPM 21-7) 4-15-70	Project number S-33(1)

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Engineer on February 6, 1969, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 275,000	$ 278,260
Federal funds	$ 173,000.00	$ 176,662.08
Other revisions		

This modification is made for the following reasons:

Based on Final Voucher.

All other terms and conditions of the Project Agreement will remain in full force and effect.

This modification is effective as of the 15th day of April, 1970.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Department)

By J. Klebe

Assistant State Highway Engineer
(Title)

By ______
______
(Title)

By ______
______
(Title)

By L. R. Backlund
(Division Engineer)
For: R. E. Simpson

STATE COPY

Monthly transaction number 10 - 42	FO PR-2A (Rev. 10-68)	ate Oregon
Project report number 8	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION BUREAU OF PUBLIC ROADS	County Crook
Modification number 1	**MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT** (PPM 21-7) 10-23-69	Project number S-33(1)

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Engineer on February 6, 1969, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 266,195	$ 275,220
Federal funds	$ 167,000.00	$ 173,000.00
Other revisions		

This modification is made for the following reasons:

Based on revised project agreement estimate.

All other terms and conditions of the Project Agreement will remain in full force and effect.

This modification is effective as of the 23rd day of October, 1969.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Department)

By

Assistant State Highway Engineer
(Title)

By

(Title)

By

(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS

By G. H. Greene
(Division Engineer)

For: R. E. Simpson

Oregon State Highway Division

Federal-Aid
Project No. S-33(1)

SWARTZ CANYON-ROCKY CANYON SECTION OF THE CROOKED RIVER HIGHWAY IN CROOK COUNTY

Revised Project agreement estimate.

Salem, Oregon, October 14, 1969

Type Code 3210
Roadway (Sta. 540+50 to Sta. 814+90.73) (Contract No. 7189)

Sub-total on previous estimate of January 22, 1969			$241,996.00

Previous Estimate

General Excavation, Unclassified	145,600 cu.yd.	0.48	$ 69,888.00
Guard Rail, Type 1	8,500 lin.ft.	2.65	22,525.00
Subbase Alternate "A"	43,500 cu.yd.	1.02	44,370.00
			$136,783.00

Present Estimate

General Excavation, Unclassified	164,800 cu.yd.	0.48	$ 79,104.00
Guard Rail, Type 1	8,100 lin.ft.	2.65	21,465.00
Subbase Alternate "A"	39,500 cu.yd.	1.02	40,290.00
EWO #2 Remove Large Loose Rock	All Required		4,128.25
			$144,987.25
	Increase		8,204.25
	Subtotal		$250,200.25
	10% Engr. & Cont.		25,019.75
			$275,220.00

Length of Roadway	4.634 miles
Cost of Roadway Per Mile	$59,391.45
Federal Funds	$173,000.00
State Funds	$102,220.00
Total	$275,220.00

State Funds for Const.: Chap. 175, Laws 1917; Chap. 31, Laws 1920;
Chap. 529, Laws 1939.
State Funds for Maint.: Chap. 529, Laws 1939.

Group 1-100%
Prefix 7-1041

Fo pproved; Budget Bureau No. 41-R2089.1

MONTHLY TRANSACTION NO. 2-21	FORM PR-2 (REV. 3-66) U.S. DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS	ATE Oregon
PROJECT REPORT NO. 5	**FEDERAL-AID PROJECT AGREEMENT** *(PPM 21-7)* 2-6-69	COUNTY Crook PROJECT NO. S-33(1)

The State, through its Highway Department, having complied, or hereby agreeing to comply, with the terms and conditions set forth in (1) Title 23, U.S. Code, Highways, (2) the Regulations issued pursuant thereto by the Secretary of Commerce and, (3) the policies and procedures promulgated by the Federal Highway Administrator relative to the above designated project, and the Bureau of Public Roads having authorized certain work to proceed as evidenced by the date entered opposite the specific item of work, Federal funds are obligated for the project not to exceed the amount shown herein, the balance of the estimated total cost being an obligation of the State. Such obligation of Federal funds extends only to project costs incurred by the State after the Bureau of Public Roads authorization to proceed with the project involving such costs.

PROJECT TERMINI

Swarts Canyon-Rocky Canyon Section of the Crooked River Highway

PROJECT CLASSIFICATION OR CLASS OF WORK	EFFECTIVE DATE OF AUTHORIZATION	APPROXIMATE LENGTH *(Miles)*
HIGHWAY PLANNING		▨
PRELIMINARY ENGINEERING		
RIGHTS-OF-WAY		▨
CONSTRUCTION	5-10-68	4.634
OTHER *(Specify)*		

FUNDS Pro Rata 63.54

ESTIMATED TOTAL COST OF PROJECT $ 266,195	FEDERAL FUNDS $ 167,000.00

The State further stipulates that pursuant to said Title 23, Regulations, and policies and procedures, and as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth on the reverse hereof.

OREGON STATE HIGHWAY DEPARTMENT
(Official name of Highway Department)

By

Asst. State Highway Engineer
(Title)

By

(Title)

By

(Title)

U.S. DEPARTMENT OF COMMERCE

BUREAU OF PUBLIC ROADS

By
(Division Engineer)
R. E. Simpson

Date executed by Division Engineer 6 FEB 1969

Oregon State Highway Department

Federal-Aid
Project No. S-33(1)

SWARTZ CANYON-ROCKY CANYON SECTION OF THE CROOKED RIVER HIGHWAY IN CROOK COUNTY

Project agreement estimate.

Salem, Oregon, January 22, 1969

Type Code 3210
Roadway (Sta. 540+50 to Sta. 814+90.73)(Contract No. 7189)

Temporary Protection and Direction of Traffic	All	Required		$ 1,500.00
Clearing and Grubbing	All	Required		11,500.00
Ditch Excavation, Unclassified	22	cu.yd.	$ 10.00	220.00
General Excavation, Unclassified	145,600	cu.yd.	0.48	69,888.00
Overhaul	6,400	C-yd.sta.	0.40	2,560.00
Finishing Roadbed and Slopes	5.14	mile	1,200.00	6,168.00
Rounding Cutbanks	12,500	lin.ft.	0.25	3,125.00
Trench Excavation	640	cu.yd.	5.00	3,200.00
Special Backfill in Drains	130	cu.yd.	12.00	1,560.00
Watering	6,400	M-gal.	0.50	3,200.00
3/4" - 0 Material in Base	8,200	cu.yd.	2.50	20,500.00
3/4" - 0 Material in Prime Coat	700	cu.yd.	4.00	2,800.00
RC-250 Material in Prime Coat	125	ton	48.00	6,000.00
Aggregate in Asphalt Macadam	2,600	cu.yd.	5.00	13,000.00
Asphalt in Asphalt Macadam	160	ton	46.00	7,360.00
Asphalt in Seal Coat	95	ton	50.00	4,750.00
Extra for Asphalt Macadam Approaches	12	only	100.00	1,200.00
12-inch Culvert Pipe	100	lin.ft.	3.00	300.00
18-inch Culvert Pipe	1,370	lin.ft.	4.00	5,480.00
24-inch Culvert Pipe	18	lin.ft.	10.00	180.00
8-inch Metal Perforated Metal Drain Pipe	930	lin.ft.	2.00	1,860.00
Guide Posts, W-1	300	only	8.00	2,400.00
Guard Rail, Type 1	8,500	lin.ft.	2.65	22,525.00
Guard Rail, Type 1A	1,000	lin.ft.	3.65	3,650.00
Subbase Alternate "A"	43,500	cu.yd.	1.02	44,370.00
	Subtotal Alternate "A"			$239,296.00
Flagging (60% of Contractor's Cost)	All	Required		$ 1,500.00
Permanent Signing (E.W.)	All	Required		1,200.00
				$ 2,700.00
	Subtotal			$241,996.00
	10% Engr. & Cont.			24,199.00
	Total			$266,195.00

Length of Roadway - - - - - - - -	4.634 Miles
Cost of Roadway Per Mile- - - -	$57,443.89

Federal Funds -	$167,000.00
State Funds -	99,195.00
Total	$266,195.00

State Funds for Const.: Chap. 175, Laws 1917; Chap. 31, Laws 1920;
Chap. 529, Laws 1939.

State Funds for Maint.: Chap. 529, Laws 1939.

RECEIVED
SEP 3 1969

FOR FILING

S-35(1)

7189

August 26, 1969

The Travelers Indemnity Co.
Fidelity & Surety Department
700 Main Street
Hartford 15, Connecticut

Gentlemen:

Contract No. 7189 awarded to Babler Brothers, Inc., for grading and oiling the Swartz Canyon-Rocky Canyon Section of the Crooked River Highway in Crook County was completed on June 25, 1969, and accepted by the Highway Commission on August 25, 1969.

Final payment in the amount of $17,081.05 will be released to the contractor after September 2, 1969. The total contract amount is $247,121.26 including $4,851.31 for work performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By
C. W. Head, Assistant Secretary

ses

cc Babler Brothers, Inc.
4617 S. E. Milwaukie Ave.
Portland, Oregon 97202

bcc J. F. Putnam
Frank Morgan
V. E. Skoog
Attn: John Herr

RECEIVED
AUG 25 1969
FOR FILING

5-33(1)

7189

August 25, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed June 25, 1969, on Contract No. 7189. The contract was with Babler Brothers, Inc. and was for grading and oiling on the Swarts Canyon-Rocky Canyon Section of the Crooked River Highway in Crook County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective August 25, 1969, and that you concur in this procedure at the Commission meeting on September 30.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
F. B. Klaboe
V. D. Wolfe
V. E. Skoog
F. D. Morgan
L. H. Young
J. F. Putnam

srb sr

S-33(1)
7189

FORM E-1 (REV 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: Swartz Canyon- Rocky Canyon

WEEK ENDING: July 19, 1969

SECTION PREFIX: 7-1041

HIGHWAY: Crooked River

COUNTY: Crook

NAME OF JOB: Swartz Canyon-Rock Canyon

KIND OF WORK: Grading and ~~Paving~~ Oiling

CONTRACTOR: Babler Bros. Inc.

CONTRACT NUMBER: 7189

FEDERAL AID PROJECT NUMBER: S-33(1)

DATE OF CONTRACT: Jan. 14, 1969

DATE WORK STARTED: Feb. 10, 1969

ESTIMATED COMPLETION DATE: Complete

AVERAGE FORCE ON PROJECT FOR THE WEEK

MEN: SUPERVISION:

SPECIFIED WORK DAYS:

WORK DAYS USED:

SPECIFIED CALENDAR DAYS: 180

CALENDAR DAYS USED: 117

SPECIFIED COMPLETION DATE:

PERCENT OF TIME ELAPSED: 65

PROJECT AUTHORIZATION: $ 274,665.46

EXCLUSIVE OF ENGINEERING: $ 252,885.82

ENGINEERING AUTHORIZATION: $ 21,779.64

PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST:

ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 247,762.00

ENGINEERING COST TO DATE: $ 26,570.00

This week 5.00

PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 100

ESTIMATED PERCENT OVERRUN UNDERRUN: 0 %

PERCENT OF AUTHORIZATION: 122 %

DATE PROJECT WAS COMPLETED: June 25, 1969

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L PROD		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED	5.14	5.14		5.14	
TOTAL ESTIMATED QUANTITIES (CONTRACT)	145,600 CY	51,700 CY		3,300 CY 380 T	
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE	160,413 CY	47,887 CY		3,036 CY 372 T	
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY				
MONDAY				
TUESDAY				
WEDNESDAY				
THURSDAY				
FRIDAY				BEN GIFFORD
SATURDAY				

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY	
MONDAY	
TUESDAY	
WEDNESDAY	
THURSDAY	
FRIDAY	
SATURDAY	

REMARKS

Semi-Final Estimate to Division Office Friday 7/18/69.

SIGNED W.W. Robertson LOCATION Bend

for: R. H. Clark Res. Eng'r.

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES

SP*F216

RECEIVED
JUL 23 1969
FOR FILING

c C

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

S-33(1)

7189

June 30, 1969

Oregon State Highway Commission

4a(2)

[illegible] R/W [illegible]

Gentlemen:

An abandonment resolution to transfer approximately 0.06 mile of old highway right-of-way in the Swarts Canyon Road-Rocky Canyon Section of the Crooked River Highway to the abutting property owners will be presented for your consideration at the July 8 Commission meeting.

This short segment of former highway is no longer required for Highway Department use and I, therefore, recommend your adoption of this abandonment resolution.

Very truly yours,

Original signed
Forrest Cooper
Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter ✓
F. B. Klaboe
V. D. Wolfe
H. S. Cox
J. F. Putnam

RECEIVED
JAN 20 1969

S-33 (1)

7189

January 20, 1969

Babler Bros., Inc.
4617 S.E. Milwaukie Avenue
Portland, Oregon 97202

Gentlemen:

Enclosed are three copies of Contract No. 7189 for $239,296 awarded to you by the State Highway Commission on January 14. This contract is for grading and oiling on the Swarts Canyon-Rocky Canyon Section of the Crooked River Highway in Crook County.

Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The calendar workday count on this contract will begin January 31.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Enclosures
bc: Frank Morgan
D. J. Barbee
I. D. Merchant
C. D. Matthis (SIAC)
J. F. Putnam
R. H. Clark

5-33(1)
7189

5-10-68

710.13

FORM PR-43
(REV. 10-66)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

TRANSMITTAL AND REQUEST FOR INITIAL PROGRAM APPROVAL OF PROJECTS
(PPM 21-1)

STATE HIGHWAY DEPARTMENT: Oregon
DATE: 5/10/68
BY (Signature): Mr. Yount's April 29, 1968 letter
TITLE:

CLASS OF FEDERAL FUNDS: ☐ FAI ☐ FAP ☐ FAU ☒ FAS ☐ OTHERS

STAGE 1 * ITEM NOS. ____ THRU ____
STAGE 2 ITEM NOs. 992 THRU ____

ITEM NO.	PROJECT NOS.	LENGTH (Miles)	TOTAL ESTIMATED COST	FEDERAL FUNDS	OTHER IDENTIFICATION AND/OR REMARKS (State) Location	Work
992	S-33(1)	5.15	$396,000	$249,000	Swartz Canyon - Rocky Canyon Section	Gr., Oil mat

NOTED
F. B. KLABO
MAY 16 1968

Young 5-15-68

REMARKS (Division)

The exception to the approved standards for Item 992, Swartz Canyon-Rocky Canyon Section is approved.

You are authorized to proceed with actions necessary to advance to completion the physical construction provided for by the above project in accordance with the provisions of your approved Secondary Road Plan. If you subsequently find that exceptions to the procedure will be needed or that your proposed design standards for this project is lower than the minimum design standards as approved March 23, 1966, this office should be notified of such proposed exceptions and reasons thereof.

RECOMMENDED DATE	RECOMMENDED SIGNATURE AND TITLE	APPROVED DATE	APPROVED SIGNATURE AND TITLE
		5/10/68	Robert E. Simpson Robert E. Simpson, Division Enginee

* Program approval and any authorization to proceed with a Stage 1 project shall not constitute and commitment of Federal funds nor shall it be construed as creating in any manner, any obligation on the part of the Federal Government to provide Federal funds for the undertaking.

USCOMM-DC 15386

5-10-68

RECEIVED
MAY 15 1968

5-33(1)
7189

May 3, 1968

3 b-4

Crook County Court
Courthouse
Prineville, Oregon 97754

4-23-68

Read adopting Survey #347

Gentlemen:

The State Highway Commission at its meeting on April 23 adopted a survey concerning improvement on the Swartz Canyon Road-Rocky Canyon Section of the Crooked River Highway in Crook County.

For your information, we have attached a sketch map showing the route of the new section and a copy of the Commission's "Survey Resolution No. 347" adopting the survey.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fkn
Attachment

RECEIVED
MAY 2 - 1968
FOR FILING

S-33(1)

7189

MAILING ADDRESS
P. O. BOX 3503
PORTLAND, OREGON 97208

STATE OF OREGON
OREGON STATE GAME COMMISSION
1634 S. W. ALDER STREET
PORTLAND

April 30, 1968

Routing
Morgan
Decker
Bond
Barbee
Walker
[illegible]
[illegible]
Pease
Morelock
Trout
Scott
Wills
Litchfield
Olson

RECEIVED
MAY - 1968
CONSTRUCTION
DIVISION

State Highway Engineer
State Highway Department
Salem, Oregon 97310

Attention: Mr. F. D. Morgan

Dear Sir:

This is in reply to your letter of April 25, 1968 which enclosed plan title sheets for three projects.

There will be no conflict with wildlife resources on the following two projects and they are approved.

1. Boardman Interchange, Columbia River Highway, Morrow County
2. Table Rock Road-Vilas Road Section, FAS 273, Jackson County

There will be no protective recommendations for fishery values on "Swartz Canyon Road-Rock Canyon Section, Crooked River Highway, Crook County," but our Lands Division has expressed an interest in possibilities of angler access to this section of Crooked River. Mr. A. V. Meyers will explore possibilities of this phase, and will undoubtedly contact appropriate people in your agency.

We appreciate the opportunity to offer recommendations on these projects.

Very truly yours,

P. W. SCHNEIDER
DIRECTOR

By R. O. Koski
R. O. Koski
Chief of Liberations

RCK/ln
cc: Len Mathisen
A. V. Meyers

5-1-68 Copies to:
F. B. Klaboe
L. H. Young
Frank Hall (3)
T. C. Roake
J. E. Morelock
J. F. Putnam (2)
A. F. Parson (2)
fw

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
DAVID B. SIMPSON, MEMBER
PORTLAND
FRED W. HILL, MEMBER
HELIX

Routing
Morgan
Glenn
Swan
Olson

MAY 13 1968

RECEIVED
MAY 8 1968
CONSTRUCTION
DIVISION

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

APR 26 1968
RECEIVED
FISH COMMISSION
__Director
__Asst. Director
__Fiscal Officer
__Spec. Asst.
__Auditor
__Licenses
__Fish Culture
__Research
✓Engineering
__Water Res.
__Info-Ed.
__Surname
Burt

ROUTED

April 23, 1968

Mr. Robert W. Schoning
State Fisheries Director
Fish Commission of Oregon
307 State Office Building
Portland, Oregon 97201

Dear Sir:

Enclosed is a plan title sheet on a project scheduled for contract letting on June 6, 1968. Would you please give this your special attention and recommendations as soon as possible.

Swartz Canyon Road-Rock Canyon Section, Crooked River Highway, Crook County

This data is forwarded to comply with Modification No. 1 dated May 19, 1965 of our Memorandum of Understanding dated September 12, 1963.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

F. D. Morgan
Construction Engineer

5-8-68 Copies to:
F.B. Klaboe
L. H. Young
Frank Hall
T. C. Roake
J. E. Morelock
J. F. Putnam (2)
fw

SNR 5-6-68

Enc.

Dear Mr. Morgan,
We anticipate no fishery conflicts & the project is approved.
BURT CARNEGIE
Hydraulic Engr.

RECEIVED
MAY 8 1968
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
APR 17 1968

FOR FILING
S-33(1)
7189

April 16, 1968

Oregon State Highway Commission

Gentlemen:

The survey on the Swartz Canyon Road-Rocky Canyon Section of the Crooked River Highway in Crook County has been completed. The route follows the existing facility with minor changes in alignment and a public hearing on this section will not be required. The length of the section is 5.44 miles and a map is attached for your information.

The estimated construction cost of this project is $400,000 and the estimated right-of-way cost is $30,000, for a total estimated cost of $430,000. Crook County has released $237,368 of its Federal funds to the State for financing of this project.

We request your approval of the survey and authority to purchase the necessary right-of-way with construction to take place when funds are available.

This matter will be on the agenda for your consideration at the April 23 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

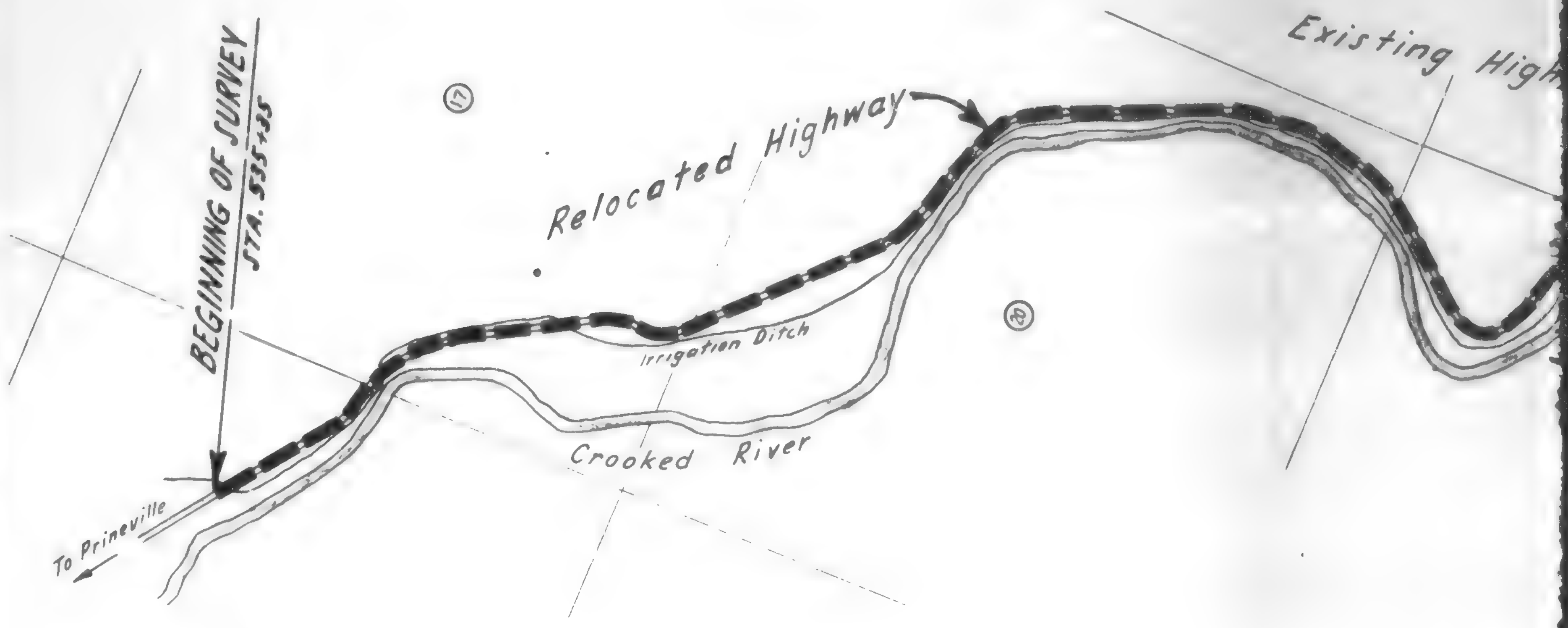
By

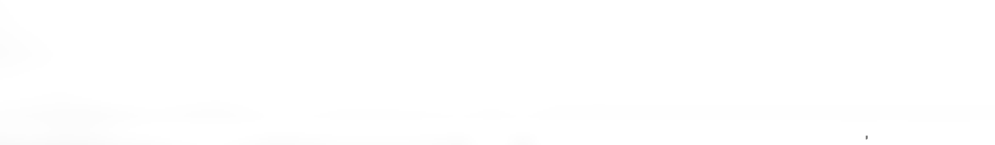
R. L. Porter
Deputy State Highway Engineer

cc: Floyd Query
F. B. Klaboe
Victor D. Wolfe
F. D. Morgan
L. H. Young
C. H. Maison
D. H. Moehring
J. F. Putnam

Attachment

BG:jp jes


Existing High
Relocated Highway
BEGINNING OF SURVEY
STA. 535+35
17
20
18
Irrigation Ditch
Crooked River
To Prineville



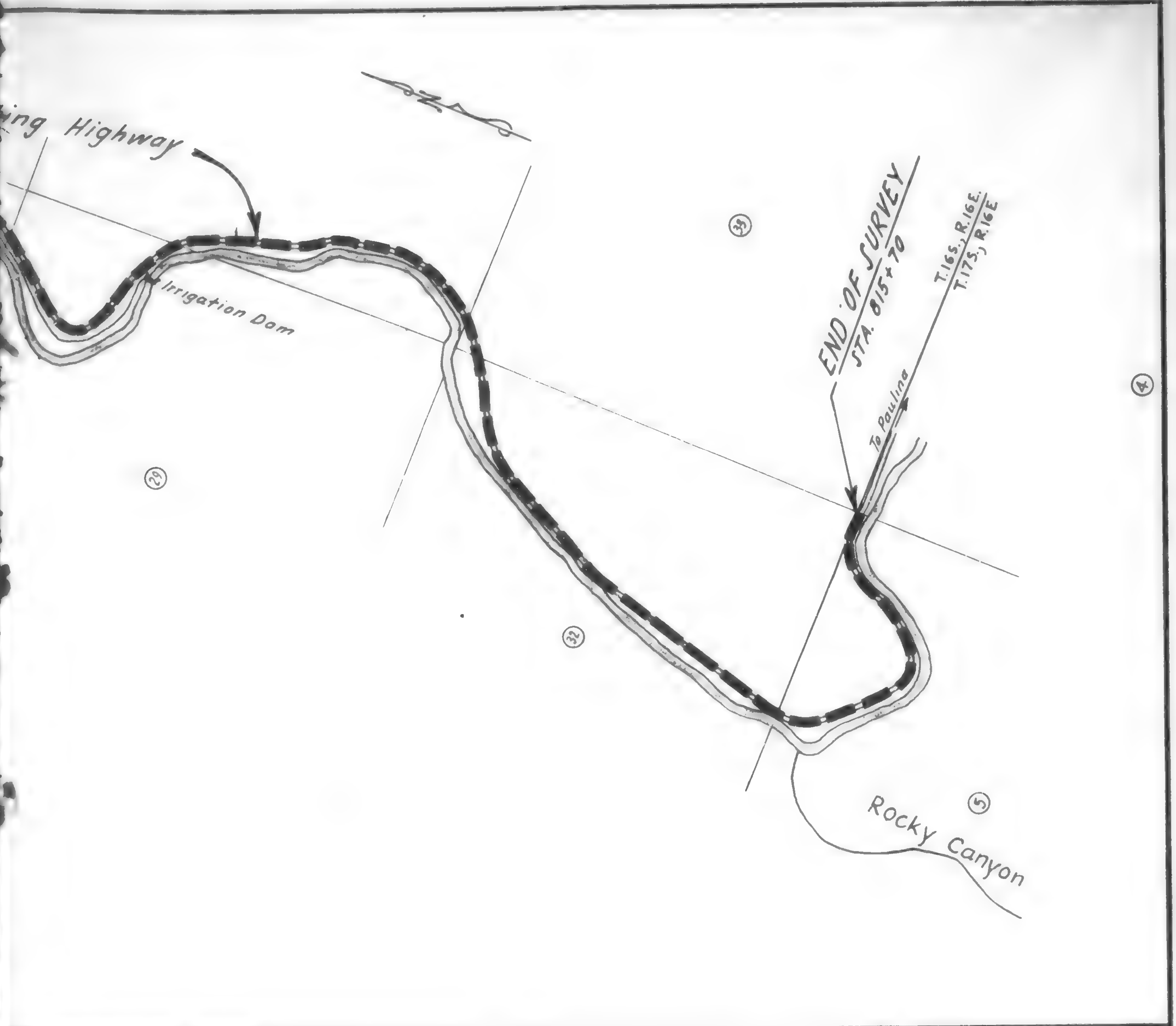
TYPICAL SECTION

PUBLIC HEARING
SYSTEM ACTION
COUNTY
STATE H
BUREAU
THROUGHWAY RE
ACCESS CONTROL

APPROVED:

5.44 Mi.

DRG. NO. 1R-4-324


ing Highway
Irrigation Dam
33
END OF SURVEY
STA. 815+70
T.16S., R.16E.
T.17S., R.16E
To Paulina
4
29
32
5
Rocky Canyon

PUBLIC HEARING	None Required
SYSTEM ACTION	
COUNTY	None Required
STATE HIGHWAY COMMISSION	None Required
BUREAU OF PUBLIC ROADS	None Required
THROUGHWAY RESOLUTION ADOPTED	None Required
ACCESS CONTROL	None

APPROVED: APR 16 1968 19

DEPUTY STATE HIGHWAY ENGINEER

OREGON STATE HIGHWAY DEPARTMENT

SURVEY APPROVAL MAP

SWARTZ CANYON RD.~ROCKY CANYON

CROOKED RIV. HWY.

CROOK COUNTY

DRG. NO. 1R-4-324

SCALE: 1" = 1,600'

DATE: March, 1968

FOR DETAILS SEE DRG. NO.

OREGON STATE HIGHWAY DEPARTMENT
CONSTRUCTION DIVISION
SOILS AND GEOLOGY SECTION
PROJECT BASE DESIGN

Page 1 of ____ Pages

Section SWARTZ CANYON ROAD - ROCKY CANYON Highway Crooked River (FAR 321) County Crook Prefix 7-193

Res. Engr. R. H. Clark Approx. Length 5.2+ Miles. Sta. 540+50+ to Sta. 815+00+ Date 3-22-68

Truck A.D.T. 15 Traffic Coefficient 5.5 18 kip s.a. per day 2.8 (Automobiles not considered.)

Annual Precipitation 13"+ (Prineville) Frost Penetration 26"+

(1)
Typical Soil

27	LL
0	PI
88	%P 10
25	%P200
12	%Gravel
12	%C Sand
52	%F Sand
21	%Silt
3	%Clay
52	"R" Value

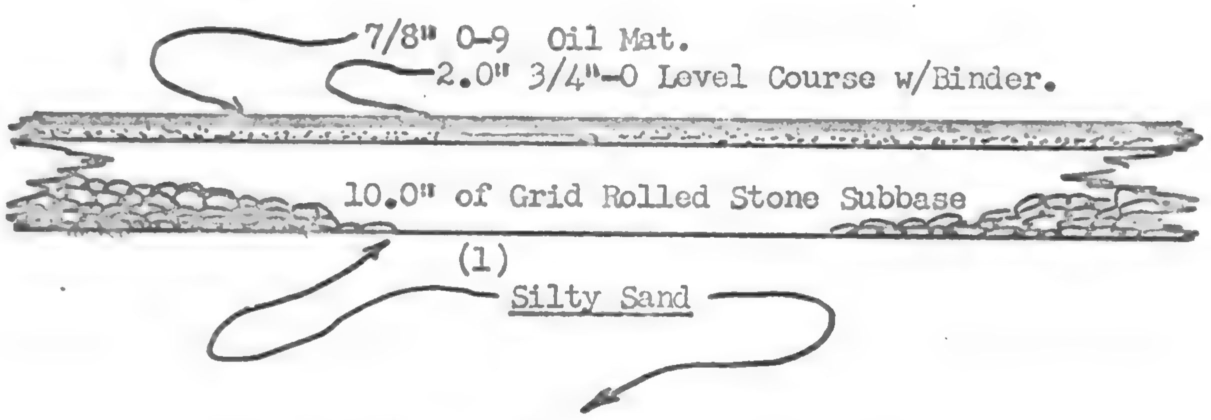
AASHO CLASSIFICATION:

A-2-4

MATERIAL SOURCES:

To be determined by the Engineer.

Sta. 540+50± - 597±


7/8" 0-9 Oil Mat.
2.0" 3/4"-0 Level Course w/Binder.
10.0" of Grid Rolled Stone Subbase
(1)
Silty Sand

CBE Total Req.	Credit	Actual Thick.	
7189	5-33		
	1.0	7/8	0-9
	2.0	2.0	Level
	8.0	10.0	G.R.S.S.
*12.0	11.0	12 7/8	

*Minimum CBE Requirement for Traffic Classification.

NOTED
F. B. KLABOE

3 22 68

cc:
B.P.R.
Asst. State Highway Engineer
Construction Engineer
Engineer of Materials
Division Engineer
Resident Engineer
Office Engineer
Design Engineer
Division Geologist
Rural Engineer

Submitted by ____ for Staff Assistant

Recommended by ____ Engineer of Materials

Recommended by ____ asst Construction Engineer

Approved by ____ Asst. State Highway Engineer

OREGON STATE HIGHWAY DEPARTMENT
CONSTRUCTION DIVISION
SOILS AND GEOLOGY SECTION
PROJECT BASE DESIGN

Page 2 of ___ Pages

Section SWARTZ CANYON ROAD - ROCKY CANYON Highway Crooked River (FAR 321) County Crook Prefix 7-1493

Res. Engr. R. H. Clark Approx. Length 5.2+ Miles. Sta. 540+50+ to Sta. 815+00+ Date 3-22-68

Truck A.D.T. 15 Traffic Coefficient 5.5 18 kip s.a. per day 2.8 (Automobiles not considered.)

Annual Precipitation 13"+ (Prineville) Frost Penetration 26"+.

(1)
Typical Soil

45	LL
12	PI
99	%P 10
59	%P200
1	%Gravel
8	%C Sand
32	%F Sand
49	%Silt
10	%Clay
14	"R" Value ([illegible])

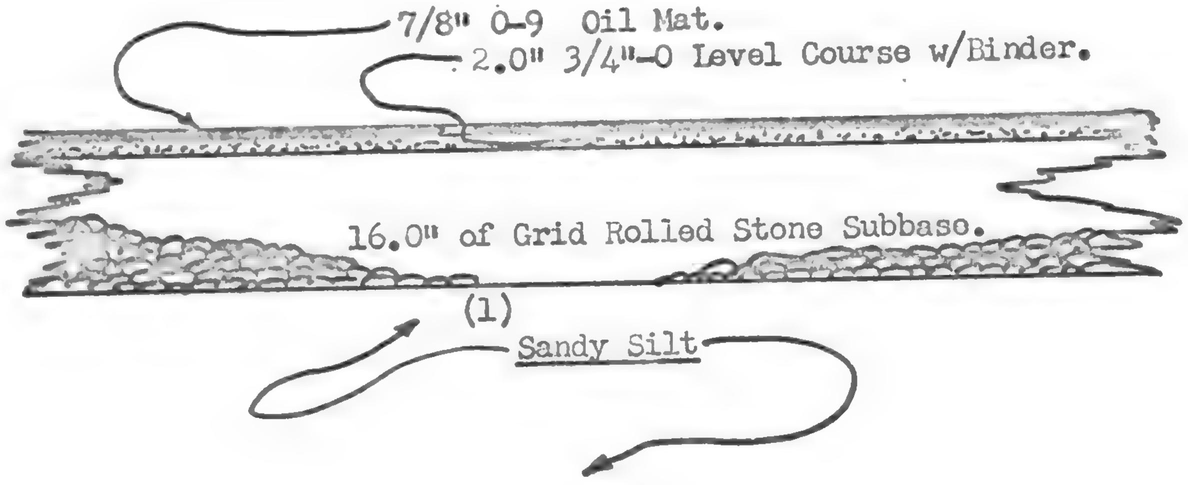
AASHO CLASSIFICATION:

A-7-5 (7)

MATERIAL SOURCES:

To be determined by the Engineer.

Sta. 597± - 612±


7/8" 0-9 Oil Mat.
2.0" 3/4"-0 Level Course w/Binder.
16.0" of Grid Rolled Stone Subbaso.
(1)
Sandy Silt

CBE Total Req.	Credit	Actual Thick.	
	1.0	7/8	0-9
	2.0	2.0	Level
	13.0	16.0	G.R.S.S.
16.5	16.0	18 7/8	

SWARTZ CANYON ROAD-ROCKY CANYON
Crooked River Highway
Crook County

Should substitutions be made use the "CBE" column to obtain the "TOTAL THICKNESS REQUIRED" and the table below for values:

1.0" Asphaltic Concrete = 2.0" Crushed Base

1.0" Oil Mat = 1.1" Crushed Base

1.0" Stone Subbase = 0.8" Crushed Base
(Per Standard Specifications)
(plus Supplementals.)

TRAFFIC ANALYSIS

SECTION: SWARTZ CANYON ROAD - ROCKY CANYON

HIGHWAY: Crooked River

COUNTY: Crook

65 Present ADT (1967)

17 Percent Trucks

AXLES	TWO WAY TRUCK ADT	EXPANSION FACTOR	TOTAL TADT	MEAN TADT	ONE WAY EWL	AVERAGE ANNUAL EWL
2	8	1.8	14	11	450	4950
3	3	1.8	5	4	1000	4000
4					1250	
5					3180	
6					2570	
				15	TOTAL	

TOTAL AVERAGE ANNUAL DESIGN EWL 8950

TWENTY YEAR EWL 179,000

TRAFFIC COEFFICIENT 5.5

SECTION: SWARTZ CANYON ROAD - ROCKY CANYON

HIGHWAY: Crooked River

COUNTY: Crook

PAVEMENT TYPE SELECTION

Principal Factors Governing Selection

1. Traffic Classification: See attached sheet

2. Soils Characteristics: See design chart attached

3. Weather: See design chart attached

4. Performance of Similar Pavements in Area: Good X Fair ____ Poor ____
Remarks: ____

5. Cost Comparisons: See remarks

Secondary Factors Governing Selection

6. Adjacent Existing Pavements: Oil

7. Stage Construction: Not applicable

8. Depressed, Surface, or Elevated Design: Surface

9. Conservation of Aggregates: Not a consideration

10. Stimulation of Competition: See remarks

11. Construction Consideration: See remarks

12. Municipal Preference, Participating Local Government Preference, and Recognition of Local Industry: Not applicable

13. Traffic Safety: Not a problem

14. Availability of an Adaption of Local Materials or of Local Commercially Produced Paving Mixes: Local materials are adaptable to this type construction.

CONCLUSION AND REMARKS:

No cost comparison made as traffic is extremely light on this section. See Item 6.

3367

RECEIVED
MAR 8 - 1967

5-33(1)

7189

NOTED
R. L. PORTER

Prefix No. 7-1473

LOCATION PROSPECTUS
SWARTZ CANYON ROAD-ROCKY CANYON SECTION
CROOKED RIVER HIGHWAY
CROOK COUNTY

HIGHWAY:	Crooked River; State Primary No. 14, Federal-aid Secondary No. 321.
TERMINI:	Northerly terminus is at M.P. 10.00 which point is 0.76 mile south of Swartz Canyon Road. The southerly terminus is at M.P. 15.0.
LENGTH:	5.0 miles.
PROGRAM:	Not programmed.
NARRATIVE:	This will be a location survey to prepare plans, specifications, and estimates for widening and the construction of an oil mat surface. Soils investigations will be conducted. Reconnaissance is not necessary. An economic analysis is not needed at this time.
CHARACTERISTICS:	Existing ADT 60; projected ADT 110.
STANDARDS:	Class "E". Deviations from standards are anticipated due to topography of the land.
TYPICAL SECTION:	Two 10-foot travel lanes with 4-foot shoulders. Entire roadway width surfaced. Thirty-two-foot oiled surface where possible.
BASE DESIGN:	Tentative base design for construction is:

Surfacing	7/8"	0-9 Oil Mat
Top Course Base	2"	Leveling
Bottom Course Base	16"	Stone Subbase
Total Depth	18-7/8"	

MATERIAL:	Sources of material will be located and referenced to this project during the survey.
ADD'L FACILITIES:	No railroad crossings. Irrigation ditch near edge of existing road, M.P. 10.57 to M.P. 12.59.

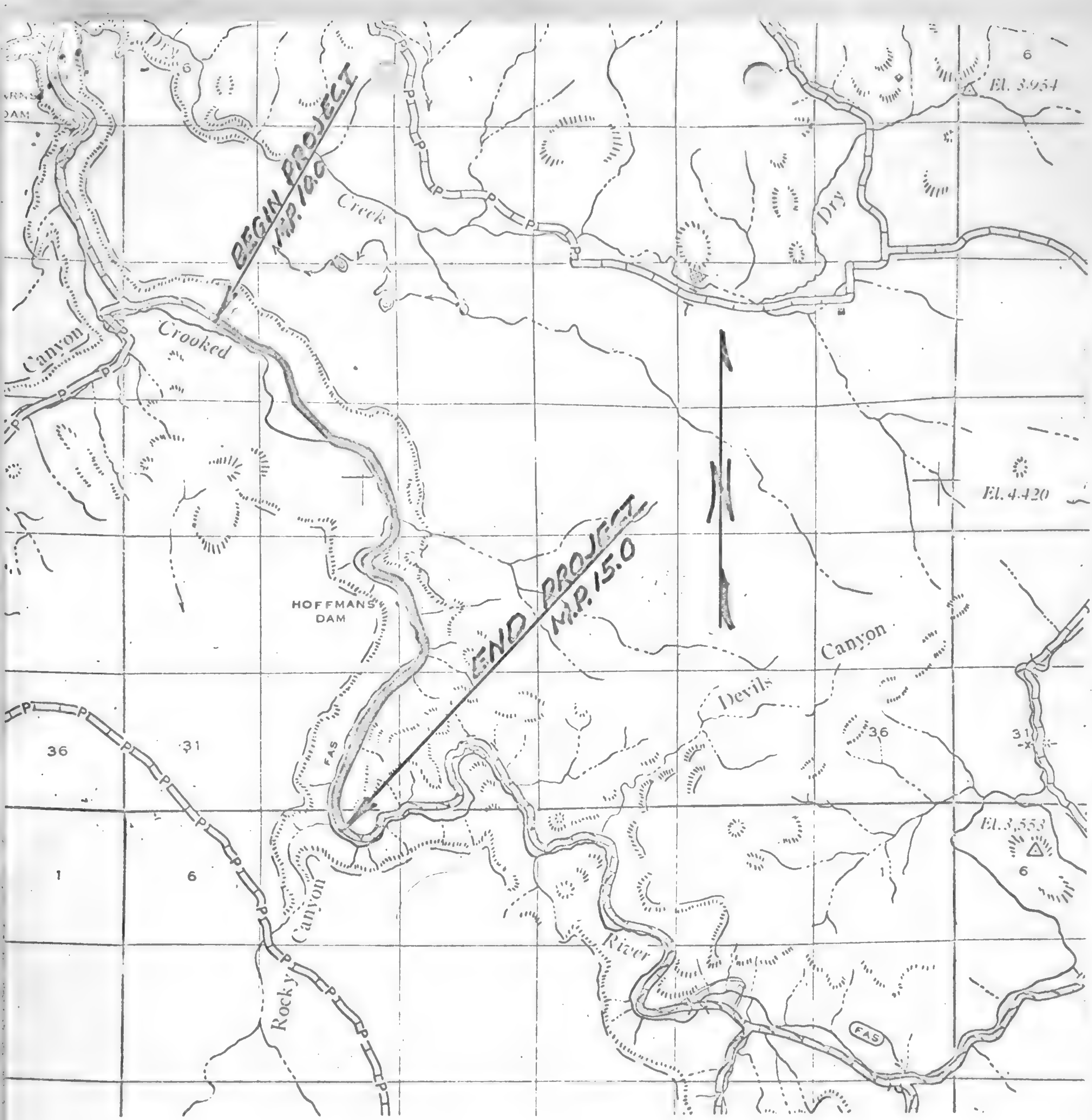
NOTED
FORREST COOPER

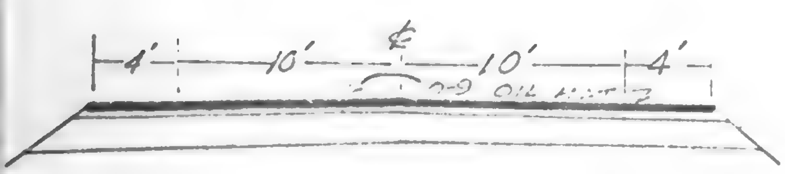
ACCESS:	Uncontrolled
AGREEMENTS:	None required.
PARKS:	None affected.

March 3, 1967
Attachment

cc: Forrest Cooper
F.B. Klaboe
Victor D. Wolfe
Tom Edwards
F.D. Morgan
J. F. Putnam (3)
Mark Astrup
R.N. Chase
H.S. Cox
F.B. Crandall
Frank Hall
E.S. Hunter
Val Johnson
Ivan Merchant (4)
D.H. Moehring (3)
A.D. Olson
James Owens
Phil Preston (2)
Jack Rowland
Robert Royer
O.C. Turner
W.H. Tebeau
F.W. Yarbrough (2)
L.H. Young

RECEIVED
7 1967
OFFICE OF
STATE HIGHWAY ENGINEER


BEGIN PROJECT M.P. 10.0
END PROJECT M.P. 15.0
HOFFMANS DAM
Crooked
Creek
Canyon
Dry
Devils Canyon
River
Rocky Canyon
FAS
El. 3,954
El. 4,420
El. 3,553
36
31
1
6


4'
10'
℄
10'
4'
0-9 Oil Mat

TYPICAL SECTION

PROSPECTUS MAP
SWARTZ CANYON RD-ROCKY CANYON
CROOKED RIVER HWY.
CROOK COUNTY
FEB 1967

LSF-21(3) Sage Hen Safety Rest Area on Central Ore. Hwy., W. of Burns. (Prospect well) 1969

#7190

STATE COPY

Monthly transaction number 5-63	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION Bureau of Public Roads	State Oregon
Project report number 16	**MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT**	County Harney
Modification number 2	(PPM 21-7) 5-17-71	Project number LSF -21 (3)

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Engineer on June 29, 19 67, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 201,747.00	$ 210,017.31
Federal funds	$ 201,747.00	$ 210,017.31
Other revisions		

This modification is made for the following reasons:

Based on final voucher.

All other terms and conditions of the Project Agreement will remain in full force and effect.

This modification is effective as of the 17 day of May, 19 71.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS

Oregon State Highway Division
(Official name of Highway Department)

By ____________________

Assistant State Highway Engineer
(Title)

By ____________________

____
(Title)

By ____________________

____
(Title)

By L K Backlund
For (Division Engineer)

Form PR-2A (Rev. 4-70) Existing stocks of Form PR-2A (Rev. 10-68) will be used.

STATE COPY

Monthly transaction number 6-119	FORM PR-2A (REV. 10-68) U.S. DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS	State Oregon
Project report number 12	**MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT**	County Harney
Modification number 1	(PPM 21-7)	Project number LSF-21(3)

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Engineer on February 6, 1969, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 9,498	$ 201,747
Federal funds	$ 9,498.00	$ 201,747.00
Other revisions		

This modification is made for the following reasons:

To include contract estimate for construction of the Rest Area.

All other terms and conditions of the Project Agreement will remain in full force and effect.

This modification is effective as of the 25th day of June, 19 69.

OREGON STATE HIGHWAY DEPARTMENT
(Official name of Highway Department)

By W B Klabre

Assistant State Highway Engineer
(Title)

By

(Title)

By

(Title)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

By
(Division Engineer)

For: R. E. Simpson

US COMM-DC 26364-P68

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

June 10, 1969

Mr. R. D. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage Street N. E.
Salem, Oregon 97301

Dear Sir:

Your memorandum of May 9, 1967 and June 29, 1967 approved among others, the following stage 2 Right of Way (Scenic) projects and obligated funds from Fiscal Year 1967 appropriations.

Item	Project	Location	Work
33	LSF-7(1)	Union Co. Line-Rock Creek	RW/S
36	LSF-21(1)	[illegible] Safety Rest Area	R.O.W.(Future R.A.)

Subsequently, on project No. LSF-7(1), a letter was received from the Wallowa County Court stating the unanimous objections of the property owners as well as the County Court to the project. Therefore it was decided not to proceed further and to cancel the project. Prior to acquiring right of way on project LSF-21(1) for the future rest area approval was requested and received to change the location of the rest area; and since the right of way has been acquired at the new location at no cost it is desirable to cancel project LSF-21(1).

We are submitting PR-9 forms for items 33 and 36 and hereby request your approval to withdraw the projects which will release a total of $147,600 in Federal funds which we propose to utilize as follows:

Amount available by withdrawals	$147,600.00
Remaining balance of 67 Fy. Funds	2,030.31
Total funds available	$149,630.31
Additional funds required on LSF-21(3)	$120,808.00
Final voucher overrun on LSF-21(2)	[illegible]
	$143,2[illegible]

Enclosed are four copies of revised estimate as a basis for modification of the project agreement for the Sage Hen Safety Rest Area, Federal-aid Project No. LSF-21(3). The project agreement estimate has been revised to include the contract for the construction of the Safety Rest Area.

We are also enclosing four copies of final voucher for the following listed Federal-aid Project and as the final cost and Federal funds required exceed the set up of funds in the project agreement, we hereby request that the agreement be modified to conform with the revised amounts.

1SP-41(2) Brothers Oasis Safety Rest Area $24,395.53

The remaining balance of $6,416.81 to be utilized for minor overruns of other projects financed by the same fiscal year funds at final voucher stage.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

L. H. Young
Program and Planning Engineer

enclosures

cc: F. B. Klaboe
J. R. Oakes
V. E. Strong
R. N. Chase
R. Olson

Oregon State Highway Department

Federal Aid
Project No. LRP-21(3)

SAGE HEN SAFETY REST AREA ON THE

CENTRAL OREGON HIGHWAY IN HARNEY COUNTY

Revised Project Agreement Estimate

Salem, Oregon, June 10, 1969

Type Code Y021
Drilling Well (M.P. 114) (Contract No. 7190)

Drill Rig Moving	2 only	$ 50.00	$ 100.00
Drilling 6-inch Test Holes	700 lin.ft.	8.75	6,125.00
Well Development Work	30 hr.	15.00	450.00
Pumping Tests	12 hr.	30.00	360.00
Reaming Test Holes to 10-inch Diameter	80 lin.ft.	3.00	240.00
Furnishing and Installing 6-inch Well Casing	80 lin.ft.	2.50	200.00
Formation Grouting	4 cu.yd.	25.00	100.00
Casing-off Formations w/4-inch Casing	100 lin.ft.	2.00	200.00
Perforated 4-inch Well Liner	100 lin.ft.	2.00	200.00
Abandonment of Hole	1 only	100.00	100.00
Filling Abandoned Hole	200 lin.ft.	1.00	200.00
Standby Time	24 hr.	15.00	360.00
	Subtotal		$ 8,635.00
	10% Engr. & Cont.		863.00
	Total		$ 9,498.00

Type Code Y021
Rest Area (M.P. 114) (Contract No. 7265)

Temporary Protection and Direction of Traffic	All Required		$ 1,000.00
Clearing and Grubbing	All Required		8,000.00
General Excavation, Unclassified	5,300 cu.yd.	$ 1.00	5,300.00
Finishing Roadbed and Slopes	All Required		5,000.00
Trench Excavation	210 cu.yd.	6.00	1,260.00
Special Backfill in Drains	36 cu.yd.	10.00	360.00
Watering	20 M-gal.	10.00	200.00
Subbase	550 cu.yd.	2.00	1,100.00
Cement-Treated Base	2,060 cu.yd.	6.00	12,360.00
Portland Cement in CTB	150 ton	50.00	7,500.00
RS-1 Asphalt in Seal	8 ton	60.00	480.00
3/4" - 1/2" Aggregates in Asphalt Macadam	70 cu.yd.	10.00	700.00
Aggregate in Asphalt Macadam	540 cu.yd.	10.00	5,400.00
Asphalt in Asphalt Macadam	40 ton	60.00	2,400.00

Asphalt in Seal Coat	12 ton	$ 70.00	$ 840.00
12-inch Paved Culvert End Slopes	3 only	100.00	300.00
10-inch Culvert Pipe	44 lin.ft.	4.00	176.00
12-inch Culver Pipe	790 lin.ft.	4.00	3,160.00
4-inch Drain Pipe	220 lin.ft.	2.00	440.00
6-inch Drain Pipe	340 lin.ft.	2.50	850.00
Concrete Inlets, Type G-1	6 only	190.00	1,140.00
Concrete Curbs	56 cu.yd.	80.00	4,480.00
Concrete Walks	1,300 sq.yd.	6.00	7,800.00
Aluminum Handrail	26 lin.ft.	20.00	520.00
Type 2 Fence	200 rod	10.00	2,000.00
Electrical Supply System	All Required		6,500.00
Area Illumination Installation	All Required		2,900.00
Roadside Seeding	4 acre	2,000.00	8,000.00
Lawn Construction	1 acre	4,000.00	4,000.00
Furnishing and Planting Shrubs	320 only	7.70	2,464.00
1/2-inch Water Pipe	430 lin.ft.	0.47	202.10
3/4-inch Water Pipe	770 lin.ft.	0.66	508.20
1-inch Water Pipe	1,540 lin.ft.	0.60	924.00
1 1/4-inch Water Pipe	500 lin.ft.	0.65	325.00
1 1/2-inch Water Pipe	90 lin.ft.	1.04	93.60
2-inch Water Pipe	460 lin.ft.	1.14	524.40
3-inch Water Pipe	340 lin.ft.	1.51	513.40
1/2-inch Steel Water Pipe	70 lin.ft.	0.70	49.00
3/4-inch Steel Water Pipe	90 lin.ft.	0.73	65.70
1-inch Automatic Section Valves	2 only	51.00	102.00
1 1/4-inch Automatic Section Valves	8 only	51.25	410.00
1 1/2-inch Automatic Section Valves	1 only	61.25	61.25
3/4-inch Quick Coupling Hose Valves	13 only	18.04	234.52
1/2-inch Drain Valves	13 only	8.19	106.47
Pop-up Rotary Sprinkler Heads	36 only	49.32	1,775.52
Pop-up Nonrevolving Sprinkler Heads	42 only	8.42	353.64
Shrubbery Sprinkler Heads	20 only	7.60	152.00
11-Section Automatic Controllers	1 only	485.00	485.00
1-inch Globe Valves	2 only	10.50	21.00
10,000 Gallon Nonelevated Steel Reservoir	All Required		5,000.00
Reservoir Water Level Controller	All Required		1,000.00
Submersible Pumping Installation	All Required		2,000.00
Hypochlorinator Installation	All Required		500.00
Domestic Pumping Facility	All Required		1,000.00
Irrigation Pumping Facility	All Required		800.00
1 1/2-inch Potable Water Supply Line	520 lin.ft.	2.50	1,300.00
3-inch Irrigation Supply Line	480 lin.ft.	3.00	1,440.00
Sign Support Footings	All Required		1,500.00

Breakaway Sign Posts	All Required		$ 4,300.00
Painted Wood Sign Posts	All Required		200.00
Type "B" Signs in Place	215 sq.ft.	$ 10.00	2,150.00
Type "C", "E" & "F" Signs in Place	17 sq.ft.	10.00	170.00
			$124,896.80
Flagging (60% of Contractor's Cost)	All Required		200.00
	Subtotal		$125,096.80
	10% Engr. & Cont.		12,509.20
	Total		$137,606.00

Type Code Y022

Convenience Facilities (M.P. 114) (Contract No. 7265)

Type 6 Toilet Building	1 only	$20,000.00	$ 20,000.00
Extra Concrete	2 cu.yd.	80.00	160.00
Water Supply and Chlorination Building	1 only	7,000.00	7,000.00
Picnic Tables	6 only	200.00	1,200.00
Picnic Table Shelters, with Tables	5 only	1,500.00	7,500.00
Drinking Fountain, with Faucet	4 only	300.00	1,200.00
Litter Receptacles	10 only	60.00	600.00
4-inch Sewer Line	34 lin.ft.	4.00	136.00
8,000 Gallon Septic Tank	1 only	3,000.00	3,000.00
4-inch Effluent Line	220 lin.ft.	4.00	880.00
Sizes 6:100 Disposal Field	1 only	8,000.00	8,000.00
	Subtotal		$ 49,676.00
	10% Engr. & Cont.		4,967.00
	Total		$ 54,643.00

Length of Project - - - - - 0.00 Mile

RETAINED IN P.S. & E. STATUS

WORK UNDER CONTRACT NO. 7190

Extra Well Construction Work	All Required	$ 1,000.00
	Subtotal	$ 1,000.00
	10% Engr. & Const.	100.00
	Total	$ 1,100.00

SUMMARY OF FUNDS

Description	Total Cost	Federal Funds
Drilling Well	$ 9,498.00	$ 9,498.00
Rest Area Facilities	137,606.00	137,606.00
Convenience Facilities	54,643.00	54,643.00
Subtotal	$201,747.00	$201,747.00
P.S. & E. Status		
Extra Well Work (7190)	1,100.00	1,100.00
Total	$202,847.00	$202,847.00

State Funds for Const.: Chap. 175, Laws 1917; Chap. 31, Laws 1920;
Chap. 529, Laws 1939.
State Funds for Maint.: Chap. 529, Laws 1939.

Group 1 - 100%

Prefix 13-0902 (Contract No. 7190)
Prefix 13-0903 (Contract No. 7265)

Form Approved; Budget Bureau No. 41-R2089.1

MONTHLY TRANSACTION NO. 2-23	FORM PR-2 (REV. 3-66) U.S. DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS	STATE Oregon
PROJECT REPORT NO. 8	**FEDERAL-AID PROJECT AGREEMENT** (PPM 21-7) 2-6-69	COUNTY Harney
		PROJECT NO. LSF-21(3)

The State, through its Highway Department, having complied, or hereby agreeing to comply, with the terms and conditions set forth in (1) Title 23, U.S. Code, Highways, (2) the Regulations issued pursuant thereto by the Secretary of Commerce and, (3) the policies and procedures promulgated by the Federal Highway Administrator relative to the above designated project, and the Bureau of Public Roads having authorized certain work to proceed as evidenced by the date entered opposite the specific item of work, Federal funds are obligated for the project not to exceed the amount shown herein, the balance of the estimated total cost being an obligation of the State. Such obligation of Federal funds extends only to project costs incurred by the State after the Bureau of Public Roads authorization to proceed with the project involving such costs.

PROJECT TERMINI

Sage Hen Safety Rest Area on The Central Oregon Highway

PROJECT CLASSIFICATION OR CLASS OF WORK	EFFECTIVE DATE OF AUTHORIZATION	APPROXIMATE LENGTH (Miles)
HIGHWAY PLANNING		▨
PRELIMINARY ENGINEERING		
RIGHTS-OF-WAY		▨
CONSTRUCTION	6-29-67	0,000
OTHER (Specify)		

FUNDS Pro Rata 100%

ESTIMATED TOTAL COST OF PROJECT $ 9,498	FEDERAL FUNDS $ 9,498.00

The State further stipulates that pursuant to said Title 23, Regulations, and policies and procedures, and as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth on the reverse hereof.

OREGON STATE HIGHWAY DEPARTMENT
(Official name of Highway Department)

By F. B. Klaboe

Asst. State Highway Engineer
(Title)

By ______

(Title)

By ______

(Title)

U.S. DEPARTMENT OF COMMERCE

BUREAU OF PUBLIC ROADS

By R. E. Simpson
(Division Engineer)
R. E. Simpson

Date executed by Division Engineer 6 FEB 1969

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

Oregon State Highway Department

Federal-Aid
Project No. IRF-21(3)

SAGE HEN SAFETY REST AREA ON THE

CENTRAL OREGON HIGHWAY IN HARNEY COUNTY

Project agreement estimate.

Salem, Oregon, January 23, 1969

Type Code Y021
Drilling Well (M.P. 114)(Contract No. 7190)

Drill Rig Moving	2	each	$	50.00	$ 100.00
Drilling 6-inch Test Holes	700	lin.ft.		8.75	6,125.00
Well Development Work	30	hr.		15.00	450.00
Pumping Tests	12	hr.		30.00	360.00
Reaming Test Holes to 10-inch Diameter	80	lin.ft.		3.00	240.00
Furnishing and Installing 6-inch Well Casing	80	lin.ft.		2.50	200.00
Formation Grouting	4	cu.yd.		25.00	100.00
Casing-off Formations W/4-inch Casing	100	lin.ft.		2.00	200.00
Perforated 4-inch Well Liner	100	lin.ft.		2.00	200.00
Abandonment of Hole	1	only		100.00	100.00
Filling Abandoned Hole	200	lin.ft.		1.00	200.00
Standby Time	24	hr.		15.00	360.00
		Subtotal			$ 8,635.00
		10% Engr. & Cont.			863.00
		Total			$ 9,498.00

Retained in P.S. & E. Status

Extra Well Construction Work	All Required	$ 1,000.00
	Subtotal	$ 1,000.00
	10% Engr. & Cont.	100.00
	Total	1,100.00

Type Code Y021
Rest Area (M.P. 114)

Blade Grader	44	hr.	$	30.00	$ 1,320.00
Front End Loader	12	hr.		20.00	240.00
Labor	12	hr.		6.50	78.00
3/4-inch - 0 Material in Base	300	cu.yd.		7.00	2,100.00
Stone Base Pit Run	1,540	cu.yd.		2.50	3,850.00

Class "B" Asphalt Concrete	700 ton	$ 15.00	$10,500.00
12-inch Drain Pipe	200 lin.ft.	3.25	650.00
Concrete Inlets, Type G-1	2 only	200.00	400.00
Type "C" Concrete Curbs	34 cu.yd.	70.00	2,380.00
Extra for AC Walks and Surfacing	520 sq.yd.	4.00	2,080.00
Type 2 Fence	210 rod	10.50	2,205.00
Electrical Supply System	All Required		2,450.00
Area Illumination	All Required		1,400.00
1-inch Water Pipe	1,195 lin.ft.	0.70	836.50
1 1/4-inch Water Pipe	1,370 lin.ft.	0.80	1,096.00
1 1/2-inch Water Pipe	190 lin.ft.	0.85	161.50
2-inch Water Pipe	390 lin.ft.	1.10	429.00
2 1/2-inch Water Pipe	530 lin.ft.	1.20	636.00
3-inch Water Pipe	170 lin.ft.	1.75	297.50
3/4-inch Steel Water Pipe	130 lin.ft.	0.80	104.00
2-inch Steel Water Pipe	110 lin.ft.	1.35	148.50
3-inch Steel Water Pipe	180 lin.ft.	2.50	450.00
3/4-inch Quick Coupling Hose Valves	20 only	8.00	160.00
Pop-Up Rotary Sprinkler Heads 1/2 Circle	18 only	35.00	630.00
Pop-Up Rotary Sprinkler Heads Full Circle	33 only	35.00	1,155.00
1 1/4-inch Automatic Control Valves	9 only	40.00	360.00
2-inch Gate Valves	2 only	50.00	100.00
2-inch Pressure Vacuum Breaker	1 only	200.00	200.00
1/2-inch Manual Drain Valves	15 only	7.00	105.00
9-Section Automatic Controller	1 only	500.00	500.00
2-inch Electric Conduit	160 lin.ft.	2.00	320.00
Submersible Pumping Installation	All Required		2,700.00
Furnishing and Planting Trees	72 only	15.00	1,080.00
Furnishing and Planting Shrubs	160 only	5.00	800.00
Lawn Construction	1 acre	1,200.00	1,200.00
2" x 6" Treated Timber Header	550 lin.ft.	0.30	165.00
Inorganic Fertilizer 10-16-8	16 cwt.	8.00	128.00
Manure Fertilizer	36 cu.yd.	8.00	288.00
Mulch	6 units	25.00	150.00
Signing			
Sign Support Footings	All Required		837.00
Breakaway Sign Posts	All Required		2,271.00
Painted Wood Sign Posts	All Required		350.00
Type "B" Signs in Place	225 sq.ft.	9.50	2,137.50
Type "C" Signs in Place	59 sq.ft.	4.75	280.25
Type "E" Signs in Place	45 sq.ft.	5.00	225.00
Type "F" Signs in Place	5 sq.ft.	7.00	35.00
Thermoplastic Pavement Arrows	2 only	120.00	240.00
			$50,228.75
Flagging (57½% of Contractor's Cost)	All Required		100.00
	Subtotal		$50,328.75
	10% Engr. & Cont.		5,032.25
	Total		$55,361.00

Type Code Y022
Convenience Facilities (M.P. 103.06)

Type 6 Toilet Building	1 only	$16,000.00	$16,000.00
Extra Concrete	1 cu.yd.	100.00	100.00
Sun Shelters	4 only	900.00	3,600.00
Picnic Tables	8 only	200.00	1,600.00
Drinking Fountain	2 only	200.00	400.00
Refuse Receptacles	4 only	35.00	140.00
3,000 Gallon Septic Tank	1 only	1,600.00	1,600.00
Size 4500 Disposal Field	1 only	2,200.00	2,200.00
4-inch Cast Iron Sewer Pipe	12 lin.ft.	3.00	36.00
4-inch Sewage Effluent Line	175 lin.ft.	2.30	402.50
		Subtotal	$26,078.50
		10% Engr. & Cont.	2,607.50
		Total	$28,686.00

Length of Project - - - - - 0.00 Mile

Summary of Funds

Description	Total Cost	Federal Funds	State Funds
Drilling Well	$ 9,498.00	$ 9,498.00	$ -
Retained in PS & E Status			
Extra Well Work	1,100.00	1,100.00	-
Rest Area Facilities	55,361.00	55,361.00	-
Convenience Facilities	28,686.00	18,088.00	10,598.00
Total	$94,645.00	$84,047.00	$10,598.00*

*We plan to eliminate or reduce the State funds when we go to full project agreement for this project, if funds are available.

State Funds for Const.: Chap. 175, Laws 1917; Chap. 31, Laws 1920;
Chap. 529, Laws 1939.
State Funds for Maint.: Chap. 529, Laws 1939.

LSF-21(3) STATE COPY

ccIOSHD (A.E. Johnson)
Region
Wash DC
Area Engr Nichols

7170

FINAL ACCEPTANCE REPORT
(PPM 20-6.1)

2-5-71

U. S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration
Bureau of Public Roads

REGION NO. 8	REPORT NO. 10	COUNTY Harney	DIVISION Oregon
DATE OF REPORT 2-2-71	REPORT MADE BY H.L. Wierenga, Engr Trainee		PROJECT NO. LSF-21(3)
COMPLETION DATE 6-25-70	ACCEPTANCE DATE BY CONTRACT AGENCY 1-21-71	TIME ELAPSED 100 %	CONTRACT TIME See below
APPROVED EXTENSIONS See below	LOCATION Adjacent to the Central Oregon Highway about 16.5 west of Burns, Oregon.		

*The PR-47, Statement of Materials and Labor Used by Contractors on Highway Construction Involving Federal Funds, has been submitted.

*A copy of the State's materials certificate is attached to the Division office copy of this report.

Compliance reviews made indicate that all applicable contract requirements relative to wage rates, payroll submissions, and labor provisions have been met.

There is compliance with section 1.23 of the Regulations pertaining to encroachment on the right-of-way.

REMARKS: *The project has been completed in reasonably close conformity with the approved plans and specifications including authorized changes and extra work.*

SAGE HEN SAFETY REST AREA
CENTRAL OREGON HIGHWAY

This contract specified a completion date of October 31, 1969, but due to stop work orders, the contractor was unable to complete the contract work until June 25, 1970. This time extension received FHWA concurrence on December 21, 1970.

The final contract amount was $180,679.77, an overrun of only 3.49%. Ten change orders were issued and approved and are documented in the final inspection report.

The State has submitted the PR-47, Laboratory Materials Certification, and the Construction Engineer's Statement.

The project has been completed in reasonably close conformity with the approved plans and specifications, including authorized changes and extra work. Acceptance of the project is recommended.

*NOTE: Not applicable for direct federal projects.

ACCEPTANCE OF PROJECT IS RECOMMENDED		ACCEPTED BY BUREAU OF PUBLIC ROADS	
SIGNATURE R. A. Nichols R. A. Nichols		SIGNATURE Original Signed by Glen L. Green Engineering Coordinator R. E. Simpson	
TITLE Area Engineer	DATE 2-2-71	TITLE Division Engineer	DATE 2-5-71

Form PR 33-E
(Rev. 7-70)

EXISTING STOCKS OF FORM PR 33-E (Rev. 3-68) WILL BE USED.

4-23-69

RECEIVED
MAY 2 - 1969

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS

Klaboe

LETTER OF APPROVAL AND/OR AUTHORIZATION

PROJECT: LSF-21(3)

SECTION: SAGE HEN SAFETY REST AREA

WORK: REST AREA IMPROVEMENTS

COUNTY: HARNEY

TO: MR. FORREST COOPER, STATE HIGHWAY ENGINEER
SALEM, OREGON

LSF-21(3)
1194

FROM: R. E. SIMPSON, DIVISION ENGINEER
SALEM, OREGON

DATE PS&E APPROVED ORIGINAL - JUNE 29, 1967

DATE AUTHORIZED JUNE 29, 1967

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW:

○ CONSTRUCTION - ADVERTISE FOR BIDS.
○ RIGHT OF WAY.
○ OTHER (SPECIFY).
○ UTILITY ADJUSTMENT.
○ RIGHT OF WAY INCIDENTALS AND RELOCATION PAYMENTS.

REMARKS AND LIMITS OF AUTHORITY:

MR. YOUNG'S DECEMBER 12, 1968 REQUEST AND CERTIFYING STATEMENTS WERE ACCEPTED WITH THE DECEMBER 18, 1968 P.S.& E. APPROVAL AND AUTHORIZATION FOR PROSPECTING WELLS.

THE REVISED PS&E DOCUMENTS ON SAFETY REST AREA IMPROVEMENTS FOR THE SUBJECT PROJECT HAVE BEEN REVIEWED AND ARE HEREBY APPROVED.

IT IS UNDERSTOOD THAT CERTIFICATION IN REGARD TO PARKS, RECREATION AND HISTORICAL RESOURCES WILL EITHER BE FURNISHED PRIOR TO BID OPENING OR PROJECT WILL BE WITHDRAWN FROM THE LETTING.

AUTHORIZATION TO ADVERTISE FOR BIDS AND TO PROCEED WITH CONTRACTOR'S FLAGGING WAS INCLUDED IN OUR JUNE 29, 1967 MEMORANDUM.

A SIGNED COPY OF THE TITLE SHEET IS RETURNED HEREWITH.

OFFICE USE

orig to Young w/enc.
4-29-69

RECEIVED
APR 29 1969
OFFICE OF
STATE HIGHWAY ENGINEER

DATE: APRIL 23, 1969

SIGNATURE OF APPROVING OFFICIAL: FOR R. E. SIMPSON

TITLE: DIVISION ENGINEER

RECEIVED
APR 11 1969

FOR FILING

LSE-21(3)

7190

April 11, 1969

Maryland Casualty Company
Baltimore 3
Maryland

Gentlemen:

Contract No. 7190 awarded to Dale Crawford Drilling for a prospect well in the Sage Hen Safety Rest Area on the Central Oregon Highway in Harney County was completed on February 21, 1969, and accepted by the Highway Commission on April 9, 1969.

Final payment in the amount of $381.75 will be released to the contractor after April 18, 1969. The total contract amount is $6,163.75 and no work was performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

sj

cc Dale Crawford Drilling
Box 17
Terrebonne, Oregon 97760

bc J. F. Putnam
Frank Morgan
C. H. Maison
Attn: John Herr

RECEIVED
APR 11 1969

FOR FILE

LSE-21(3)
7190

April 10, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed February 21, 1969, on Contract No. 7190. The contract was with Dale Crawford Drilling and was for a prospect well on the Sage Hen Safety Rest Area Section of the Central Oregon Highway in Harney County.

As the Contractor has completed all work according to specifications, I recommend that you accept the project effective April 9, 1969, and that you concur in this procedure at the Commission meeting on April 22.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

R. L. Porter
Deputy State Highway Engineer

cc: Floyd Query
Tom Edwards
F. B. Klaboe
Victor D. Wolfe
C. H. Maison
Ivan Merchant
L. H. Young
F. D. Morgan
J. F. Putnam

srb er

RECEIVED
APR 1 - 1969
FOR FILING

OREGON STATE
HIGHWAY DEPARTMENT

LSF-21(3)
7190

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

February 25, 1969

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage Street, N.E.
Salem, Oregon 97301

Contract 7190
Prefix 13-0902
FAP LSF-21(3)

N
F. B. KL

Dear Sir:

All work under Contract No. 7190, Sage Hen Hill Safety Rest Area Section of the Central Oregon Highway in Harney County, was completed on February 21, 1969.

We request that your office inspect the contract work and return two signed copies of this letter indicating acceptance or listing below any items or conditions of the contract which would prevent your final acceptance of the contract work.

Very truly yours,

Forrest Cooper
State Highway Engineer

By F.D. Morgan
F. D. Morgan
Construction Engineer

Bureau of Public Roads
Oregon Division Office Endorsement   Date March 12, 1969

Conditions noted on above date:

NONE

RAN:bk

for R. E. Simpson
Division Engineer

RECEIVED
MAR 26 1969
OFFICE OF
STATE HIGHWAY ENGINEER

JK:fw
TO: Forrest Cooper
F. D. Morgan

RECEIVED
FEB 4 - 1969

FOR FILING

LSF-21(3)
7190

February 3, 1969

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage Street, N.E.
Salem, Oregon 97301

Contract 7190
Prefix 13-0902
FAP LSF-21(3)

Dear Sir:

The work under Contract No. 7190, Sage Hen Hill Safety Rest Area Section of the Central Oregon Highway in Harney County, was started on January 27, 1969.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

F. D. Morgan

F. D. Morgan
Construction Engineer

JK:fw

ml

RECEIVED
FEB 26 1969
FOR FILING

LSF-37(3)
7190

January 23, 1969

Dale Crawford Drilling
Box 17
Terrebonne, Oregon 97760

Gentlemen:

The State Highway Commission on January 14, 1969, accepted your proposal for a prospect well in the Sage Hen Safety Rest Area on the Central Oregon Highway in Harney County for the sum of $8,635.00 and referred it to the State Highway Engineer with authority to award the contract as soon as approval of the Bureau of Public Roads was received.

Approval was given by the Bureau of Public Roads and the State Highway Engineer on January 23, 1969, awarded you the project, which has been assigned Contract No. 7190.

Enclosed are three copies of this contract. Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The completion date on this contract is February 28, 1969.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Enclosures
bc: Pacific Builder & Engr., Inc., Seattle, Wash.
Daily Journal of Commerce, Seattle, Wn., & Portland, Ore.
Don Pallette
J. F. Putnam
Frank Morgan
D. J. Barbee
I. D. Merchant
C. D. Matthis (SIAC)
Roy Olson

RECEIVED
DEC 23 1968

BUREAU OF PUBLIC ROADS

LETTER OF APPROVAL AND/OR AUTHORIZATION

PROJECT:	LSF 21 (3)
SECTION:	SAGE HEN SAFETY REST AREA
WORK :	PROSPECT WELLS
COUNTY :	HARNEY

TO: MR. FORREST COOPER
STATE HIGHWAY ENGINEER
SALEM, OREGON

LSF-21(3)
7190

FROM: R. E. SIMPSON, DIVISION ENGINEER
SALEM, OREGON

DATE PS&E APPROVED	DATE AUTHORIZED
DECEMBER 18, 1968	DECEMBER 18, 1968

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW:

☒ CONSTRUCTION - ADVERTISE FOR BIDS.

○ RIGHT OF WAY.

☒ OTHER (SPECIFY). AFTER AWARD CONCURRENCE YOU ARE AUTHORIZED TO PROCEED WITH CONTRACTOR'S FLAGGING SHOWN IN YOUR ESTIMATE IN AMOUNT OF $100.00.

○ UTILITY ADJUSTMENT.

○ RIGHT OF WAY INCIDENTALS AND RELOCATION PAYMENTS.

REMARKS AND LIMITS OF AUTHORITY:

AUTHORIZATION GRANTED UNDER RIGHT OF WAY PERMIT OF ENTRY GIVEN OCTOBER 9, 1968 BY BLM UNDER FILE 42920 (BLM FILE NO. OR3844).

MR. YOUNG'S DECEMBER 12, 1968 REQUEST AND CERTIFYING STATEMENTS ARE ACCEPTED. PS&E DOCUMENTS FOR SUBJECT PROJECT HAVE BEEN REVIEWED AND ARE HEREBY APPROVED.

A SIGNED COPY OF THE TITLE SHEET IS RETURNED HEREWITH.

NOTED
F. B. KLABOE

OFFICE USE
12-23-68
REFERRED TO Wene,

RECEIVED
DEC 23 1968
OFFICE OF
STATE HIGHWAY ENGINEER

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
12-18-68	S. Green For R. E. SIMPSON	DIVISION ENGINEER

RECEIVED
FORM E-30 (12-67)
DEC 10 1968

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem 97310
December 6, 1968

LSF - 31(3)
7190

To:

Mr. L. H. Young
Program and Planning
  Engineer

BUILDING

SUBJECT: Right of Way Status
LSF Project
Sage Hen Hill Safety
Rest Area
January 9, 1969
Bid Opening

I certify that to the best of my knowledge the following statement is correct with regard to right of way for the following project scheduled for contracting on the above date.

Sage Hen Hill Safety Rest Area
Central Oregon Highway
Harney County
Well exploration

The only file involved is a Bureau of Land Management file and does not involve any improvement and they will give the State a preconstruction permit.

G. E. ROHDE
Chief Counsel

John R. Oakes
John R. Oakes
Assistant Right of Way Engineer

JRO:DH

cc F. B. Klaboe
C. H. Maison
G. E. Rohde
T. W. Litchfield
W. H. Haskin
Duane Ridings
Frank Lowe
M. R. Mitchell

RECEIVED
DEC 6 1968
OFFICE OF
STATE HIGHWAY ENGINEER

[illegible] 1968

LSF-21(3)
7190

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

September 30, 1968
Salem, Oregon

SUBJECT: Utility Status Report for October 24, 1968 Letting

To: Mr. L. H. Young
Office Engineer
BUILDING

The status of negotiations with utilities on the LSF project for this letting is as follows:

SAGE HEN HILL SAFETY REST AREA: Well Exploration

No utilities involved.

F. D. Morgan
Construction Engineer

By: TW Litchfield
T. W. Litchfield
Utilities Liaison Engineer

JMC:ss

cc: F. B. Klaboe
C. H. Maison
D. H. Moehring
C. G. Swenson
L. H. Young (2)

RECEIVED
SEP 30 1968
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
OCT 2 - 1968
FOR FILM

LSF-221(3)
7190

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

September 30, 1968
Salem, Oregon

SUBJECT: Utility Status Report for October 24, 1968 Letting

To: Mr. L. H. Young
Office Engineer
BUILDING

The status of negotiations with utilities on the LSF project for this letting is as follows:

SAGE HEN HILL SAFETY REST AREA: Well Exploration

No utilities involved.

I certify that to the best of my knowledge the above statement is correct in regard to utility negotiations for this project scheduled for contract on October 24, 1968.

F. D. Morgan
Construction Engineer

By:

T. W. Litchfield
Utilities Liaison Engineer

JMC:ss

cc: F. B. Klaboe
C. H. Maison
D. H. Moehring
C. G. Swenson
L. H. Young (2)

RECEIVED
OCT 1 1968
OFFICE OF
STATE HIGHWAY ENGINEER

S-516(2) E. Fork Hood River (Toll) Br. 1969
on FAS-341, S. of Hood River.
#7191 (R.C. slab span bridge)

C&A 3654

OREGON STATE HIGHWAY DEPARTMENT

FORM A-150 (3-64)

HIGHWAY DEPARTMENT INVOICE

NO. 103714

DATE	BILLING REQ. NO.	YOUR ORDER NO.	CREDIT DISTRIBUTION
[illegible]	[illegible]		[illegible]

Contract 7191
S-516(2)

Hood River County
Board of Commissioners
Court House
Hood River, Oregon 97031

RECEIVED
COUNTY & CITY SECTION
OCT 20 1970
☐ ENGR. ☑ COOR. ☑ UE ☒ AE ☑ UE
☑ UPE ☑ CE ☒ RE ☒ RPE ☐

MAKE CHECKS PAYABLE TO
THE OREGON STATE HIGHWAY DEPARTMENT

SEND REMITTANCE TO:
OREGON STATE HIGHWAY DEPARTMENT
STATE HIGHWAY BUILDING
SALEM, OREGON 97310

DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL PRICE
Attention: A. J. Almcrants			
Final Billing: E. Fork Hood River (Toll) Bridge Section, F. 311. Covered by agreement dated 5-2?-[illegible].			
County Advance Deposit		22,000.00	
Amount previously transferred		15,000.00	
			7,000.00
County share of construction		21,930.10	
Amount previously transferred		15,000.00	
			6,930.10
To be refunded			69.90

ACKNOWLEDGMENT OF BILLING REQUEST
Cash Received with Request $
By

STATE COPY

Monthly transaction number 7-32	Form PR-2A (Rev. 10-68) U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION BUREAU OF PUBLIC ROADS	State Oregon
Project report number 7	**MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT** *(PPM 21-7)* 7-17-70	County Hood River
Modification number 1		Project number S-516 (2) Safety

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Engineer on February 6, 1969, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 106,084.00	$ 108,143.51
Federal funds	$ 66,000.00	$ 68,725.20
Other revisions		

This modification is made for the following reasons:

Based on final voucher

All other terms and conditions of the Project Agreement will remain in full force and effect.

This modification is effective as of the 17th day of July, 1970.

Oregon State Highway Division
(Official name of Highway Department)

By B. Klaboe

Asst. State Highway Engineer
(Title)

By ____________________

____
(Title)

By ____________________

____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS

By L. R. Backlund
(Division Engineer)

For: R. E. Simpson

F[illegible]pproved; Budget Bureau No. 41-R2089.1

MONTHLY TRANSACTION NO.
2-7

PROJECT REPORT NO.
3

FORM PR-2
(REV. 3-66)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

FEDERAL-AID PROJECT AGREEMENT

(PPM 21-7)

2-6-69

STATE
Oregon

COUNTY
Hood River

PROJECT NO.
S-516(2)

The State, through its Highway Department, having complied, or hereby agreeing to comply, with the terms and conditions set forth in (1) Title 23, U.S. Code, Highways, (2) the Regulations issued pursuant thereto by the Secretary of Commerce and, (3) the policies and procedures promulgated by the Federal Highway Administrator relative to the above designated project, and the Bureau of Public Roads having authorized certain work to proceed as evidenced by the date entered opposite the specific item of work, Federal funds are obligated for the project not to exceed the amount shown herein, the balance of the estimated total cost being an obligation of the State. Such obligation of Federal funds extends only to project costs incurred by the State after the Bureau of Public Roads authorization to proceed with the project involving such costs.

PROJECT TERMINI

E. Fork Hood River (Toll) Bridge on FAS 341 in Hood River County

PROJECT CLASSIFICATION OR CLASS OF WORK	EFFECTIVE DATE OF AUTHORIZATION	APPROXIMATE LENGTH (Miles)
HIGHWAY PLANNING		▨
PRELIMINARY ENGINEERING		
RIGHTS-OF-WAY		▨
CONSTRUCTION	12-9-68	0.031

OTHER (Specify)

FUNDS Pro Rata 63.54

ESTIMATED TOTAL COST OF PROJECT
$ 106,084

FEDERAL FUNDS
$ 66,000.00

The State further stipulates that pursuant to said Title 23, Regulations, and policies and procedures, and as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth on the reverse hereof.

OREGON STATE HIGHWAY DEPARTMENT
(Official name of Highway Department)

By

Asst. State Highway Engineer
(Title)

By

(Title)

By

(Title)

U.S. DEPARTMENT OF COMMERCE

BUREAU OF PUBLIC ROADS

By
(Division Engineer)
R. E. Simpson

Date executed by Division Engineer 6 FEB 1969

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

USCOMM-DC 26884-P66

Oregon State Highway Department

Federal Aid
Project No. S-516(2) Safety

E. FORK HOOD RIVER (TOLL) BRIDGE ON FAS 341 IN HOOD RIVER COUNTY

Project agreement estimate.

Salem, Oregon, January 22, 1969

Type Code X020
Bridge #9844 (Sta. 24+15 to Sta. 25+80) (Contract No. 7191)

Temporary Protection & Direction Of Traffic	All Required		$ 1,500.00
Shoring, Cribbing, Etc.	All Required		8,000.00
Structural Excavation	620 cu. yd.	6.00	3,720.00
Structural Excavation Below Elevation Shown	60 cu. yd.	15.00	900.00
Class "A" Concrete (675 cu. yd.)	All Required		52,000.00
Reinforcement (164,700 lb.)	All Required		22,400.00
Three Tube Steel Railing	330 lin. ft.	24.00	7,920.00
			$ 96,440.00
	10% Engr. & Cont.		9,644.00
	Total		$106,084.00

Length of Structure 0.031 mile

Federal Funds -	$ 66,000.00
State Funds -	20,042.00
County Funds -	20,042.00
Total	$106,084.00

State Funds for Const.: Chap. 175, Laws 1917; Chap. 31, Laws 1920; Chap. 529, Laws 1939.
State Funds for Maint.: Chap. 529, Laws 1939.

RECEIVED
DEC 24 1969

FOR FILING

S-516 (2)
7191

3 g

(7)

November 26, 1969

Ross Bros. Construction, Inc.
359 Apple Blossom Avenue, N.
Salem, Oregon 97303

Gentlemen:

The State Highway Commission at its meeting on November 18, 1969, considered your request for an extension of time of 23 calendar days on Contract No. 7191 for the East Fork Hood River (Toll) Bridge on FAS 341 in Hood River County.

Careful consideration was given to the reasons you submitted. However, in light of the available facts and the provisions of the contract, the Commission denied your request.

If there are pertinent facts which have not yet been considered, you should contact the Resident Engineer, the Division Engineer, or the Construction Engineer in the Salem Office.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By
C. W. Head, Assistant Secretary

cr

bc: F. D. Morgan
I. D. Merchant
V. E. Skoog
L. W. Rulien
Enrique Rodriques

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 7191 Contractor Ross Bros Construction, Inc.

Highway FAS 341

Section E. Fork Hood River (Toll) Bridge

Kind of Work Structure

It is recommended that the request for increase in the number of workdays within which to complete said contract be **DENIED** or **GRANTED**. The reasons for such recommendation are as follows:

Recommend this request be denied. Weather conditions were not unusual to the area and had the contractor prosecuted the work with reasonable vigor it could have been completed within the time allotted.

Recommended for Approval:

Asst Division Engineer

Ivan V Merchant
~~Construction Engineer or~~
Bridge Engineer

State Highway Engineer

[illegible]

Contract No.	7191
Project designation (State-Federal)	S-516 (2)
Date awarded	January 21, 1969
Work started	April 1, 1969
Per cent completed; Date	100 %; September 2,1969
No. of Workdays Allowed	190
No. of Workdays Used	212
No. of Added Workdays Requested	23

E-32 (Rev.)—5M—9-64

RECEIVED
OREGON STATE HIGHWAY DEPT.
BRIDGE DIVISION
OCT 3 1969
7,8,9,10,11,12,1,2,3,4,5,6 PM

OREGON STATE HIGHWAY COMMISSION

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon 97310

Date September 5, 1969

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from 190 days to 213 days, within which to complete our Contract No. 7191, without the assessment of liquidated damages. The said contract is described as follows:

E. Fork Hood River (Toll) Bridge, Hood River County, Oregon

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows:

Severe winter weather and deep snow delayed the start of construction until March 4, 1969. Calendar day count started February 3, 1969.

Respectfully submitted,

Ross Bros. Construction, Inc.
Contractor

By N K Ross

CONSENT OF SURETY

Date September 5, 1969

We, Federal Insurance Company, as

surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

V Ronnie Moeller
Attorney-in-fact

(SEAL)

Kay C Cate
Resident Agent

CURRY -

RECEIVED
NOV 18 1969

S-516(2)
7191

November 17, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed September 2, 1969, on Contract No. 7191. The contract was with Ross Brothers Construction, Inc., and was for a structure on the East Fork Hood River (Toll) Bridge Section of FAS 341 in Hood River County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective as of this date.

This matter will be on the agenda for confirmation at the November 18 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
F. B. Klaboe
Victor D. Wolfe
V. E. Skoog
Ivan Merchant
F. D. Morgan
L. H. Young
L. W. Rulien

srb sr

RECEIVED
NOV 18 1969
FOR FILE

5-516 (2)
7191

November 17, 1969

Federal Insurance Company
Bonding Department
417 Norton Building
Seattle, Washington 98104

Gentlemen:

Contract No. 7191 awarded to Ross Bros. Construction, Inc., for structure on the E. Fork Hood River (Toll) Bridge on FAS 341 in Hood River County was completed on September 2, 1969, and accepted by the Highway Commission on November 17, 1969.

Final payment in the amount of $4,910.62 will be released to the contractor after November 24, 1969. The total contract amount is $93,822.62 and no work was performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr

cc: Ross Bros. Construction, Inc.
359 Apple Blossom Avenue, N.
Salem, Oregon 97303

Curry-Kropp-Cates, Inc.
1390 Capital Street, N.
Salem, Oregon 97303

Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Herr
L. W. Rulien

NOTED ON CARD
11-17-69 CR

RECEIVED
OCT 21 1969
FOR FILING

S-516(2)
7191

October 21, 1969

Oregon State Highway Commission

Gentlemen:

Request for Extension of Time
No. 7
November 18, 1969 meeting

Ross Brothers Construction, Inc., contractor on the East Fork Hood River (Toll) Bridge on FAS 341 in Hood River County, Contract 7191, has requested that he be granted an additional 23 calendar days, without assessment of liquidated damages, in which to complete the contract work. The contractor cites extreme winter weather and deep snow which delayed the start of work as his reason for failure to complete the work on time.

The contract was awarded January 21, 1969, and allotted 190 calendar days to complete the work. The work was completed September 2, 1969, with 212 calendar days charged. This is an overrun of 22 calendar days.

Inclement weather is not a reason for an extension of time without assessment of liquidated damages within the language of the specifications. The weather was severe during the latter part of January but it moderated quickly and was not at all unusual when compared to past weather history for the area.

I recommend that the contractor's request be denied and that he be assessed liquidated damages for the excess time consumed. This amounts to an assessment of $1,650.

This matter will be on the agenda for your consideration at the November 18 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
V. D. Wolfe
F. D. Morgan
Ivan Merchant
V. E. Skoog
L. W. Rulien

CAG:dh sr

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 7191 Contractor Ross Bros Construction, Inc.

Highway FAS 341

Section E. Fork Hood River (Toll) Bridge

Kind of Work Structure

It is recommended that the request for increase in the number of workdays within which to complete said contract be **DENIED** or **GRANTED**. The reasons for such recommendation are as follows:

Recommend this request be denied. Weather conditions were not unusual to the area and had the contractor prosecuted the work with reasonable vigor it could have been completed within the time allotted.

Recommended for Approval:

Asst Division Engineer

Ivan Merchant
~~Construction Engineer or~~
Bridge Engineer

Asst. State Highway Engineer

Contract No. 7191

Project designation S-516 (2)
State-Federal

Date awarded January 21, 1969

Work started April 1, 1969

Per cent completed 100 %; September 2,1969
Date

No. of Workdays Allowed 190

No. of Workdays Used 212

No. of Added Workdays Requested 23

SP*6296-734

E-320 (Rev.)—6M—9-64

RECEIVED
OREGON STATE HIGHWAY DEPT.
BRIDGE DIVISION
OCT 3 1969
7,8,9,10,11,12,1,2,3,4,5,6 PM

OREGON STATE HIGHWAY COMMISSION

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon 97310

Date September 5, 19 69

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from 190 days to 213 days, within which to complete our Contract No. 7191, without the assessment of liquidated damages. The said contract is described as follows:

E. Fork Hood River (Toll) Bridge, Hood River County, Oregon

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows:

Severe winter weather and deep snow delayed the start of construction until March 4, 1969. Calendar day count started February 3, 1969.

Respectfully submitted,

Ross Bros. Construction, Inc.
Contractor

By R K Ross

CONSENT OF SURETY

Date September 5, 19 69

We, Federal Insurance Company, as

surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

Attorney-in-fact

(SEAL)

Resident Agent

CURRY - KROP

fas 341
Hood R Co.

DEPARTMENT OF PUBLIC WORKS
CARLOS VAN ELSBERG, DIRECTOR
P. O. BOX 457
HOOD RIVER, OREGON 97031
PHONE 386-2616

HOOD RIVER COUNTY

COUNTY OF HOOD RIVER
BOARD OF COMMISSIONERS
P. F. BUCKLIN, CHAIRMAN
JAN Y. KURAHARA, VICE CHAIRMAN
JERRY ROUTSON
CLARENCE N. AMOTH
BRUNO HUKARI
HOOD RIVER, OREGON

NOTED
S. COX

October 3, 1969

State of Oregon
State Highway Department
City-County Division
Salem, Oregon 97310

Attention: Si Cox

Dear Sir:

The Board of County Commissioners on September 17, 1969, upon the recommendation of the Department of Public Works, accepted the "Toll Bridge Project" as completed by the State Highway Department.

Sincerely yours,

Carlos Van Elsberg
Carlos Van Elsberg,
Director

CVE:mt

RECEIVED
OCT 6 - 1969
ENGINEER
COUNTY & CITY DIVISION

NOTED
HAROLD
REYNOLDSON

NOTED
R. H. PRANGE

NOTED
P. B. Arcsmeier

Noted
Oscar H. Norberg

NOTED

NOTED
DON HARWELL

FAS 341

H

NOTED
H. S. COX

RECEIVED
JUN 25 1969
ENGINEER
COUNTY & CITY DIVISION

June 24, 1969

Mr. Carlos VanElsberg
Director of Public Works
P. O. Box 457
Hood River, Oregon 97031

Dear Mr. VanElsberg:

This letter is being written as a follow-up of our discussion of last week concerning the conflict between the existing structure and the structure now under construction over the east fork of Hood River. With the planned alignment for the new structure, it overlaps the southwesterly corner of the existing pin connective truss by about 8 inches at a point 12 feet from the center line of Bent One. It appears this conflict can be alleviated by making a slight shift in the alignment of the new structure. This shift in alignment will be accomplished by increasing the degree of curvature from 12 degrees to about 12 degrees 20 minutes, and shifting the P.S.C. accordingly. This shift will not have any detrimental affect on the alignment of the road or on the structure, and will not be detectable by the traveling public.

As we discussed, a desirable alternate method of relieving the conflict would be the removal of the existing bridge. If the conflict is to be alleviated by the removal of the existing bridge, it must be done immediately, or construction of the new bridge will be delayed. At the present time, there are two water lines on the old bridge, which preclude its immediate removal. We are, therefore, proceeding with construction of the bridge on the revised new alignment.

Sincerely,

L. W. Rulien
Division Engineer

by

A. C. Harwood
Asst. Division Engineer

NOTED
HAROLD
REYNOLDSON

ACH/nal

bcc: Enrique Rodriguez

NOTED
R. H. PRANGE

Henslee H. S. Cox
R

NOTED
MAINOR C. HOLMES

NOTED
P. B. Arensmeier

NOTED
RICHARD UNREIN

Noted
Oscar H. Norberg

NOTED
DON HARWELL

RECEIVED
APR 4 - 1969

S-516(2)
7191

April 3, 1969

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage Street, N.E.
Salem, Oregon 97301

Contract 7191
Prefix 514-1074
FAP S-516(2)

Dear Sir:

The work under Contract No. 7191, East Fork Hood River (Toll) Bridge Section of FAS 341 in Hood River County was started on April 1, 1969.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

F D Morgan
F. D. Morgan
Construction Engineer

VG:fw

721

January 22, 1969

Hood River County Board of
  Commissioners
Courthouse
Hood River, Oregon   97031

Attention Mr. A. E. Almerants

East Fork Hood River (Toll) Bridge
FAS 341
Hood River County

Gentlemen:

This is to acknowledge receipt of the County's advance deposit in the amount of $22,000 for subject project.

A copy of the construction plans and Contract #7191 are enclosed for your information and reference. If more copies are desired, please do not hesitate to request same.

Very truly yours,

H. S. Cox
County and City Engineer

By

NOTED
HAROLD
REYNOLDSON

HR

Harold Reynoldson
Planning Engineer

HR:eb

Enc.

NOTED
[illegible]

NOTED
R. H. PRANGE

NOTED
RICHARD UNREIN

NOTED
MAINOR C. HOLMES

RECEIVED
FEB 26 1969

FOR FILING

S-516(2)

7191

C

January 22, 1969

Ross Bros. Construction, Inc.
359 Apple Blossom Avenue, N.
Salem, Oregon 97303

Gentlemen:

The State Highway Commission on January 14, 1969, accepted your proposal for construction of the E. Fork Hood River (Toll) Bridge on FAS 341 in Hood River County for the sum of $96,440.00 and referred it to the State Highway Engineer with authority to award the contract as soon as certain conditions have been satisfied.

Those conditions were fulfilled and the State Highway Engineer on January 21, 1969, awarded you the project, which has been assigned Contract No. 7191.

Enclosed are three copies of this contract. Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The calendar day count on this contract will begin February 3, 1969.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Enclosures
bc: Pacific Builder & Engr., Inc., Seattle, Wash.
    Daily Journal of Commerce, Seattle, Wn., & Portland, Ore.
    L. W. Pulien
    Enrique Rodriques
    Frank Morgan
    D. J. Barbee
    I. D. Merchant
    C. D. Matthis (SIAC)

RECEIVED
JAN 14 1969
FC
S-516(2)
7191

January 10, 1969

Board of County Commissioners
Hood River County
Courthouse
Hood River, Oregon 97031

MISC. CONTRACTS and
AGREEMENTS No. 3654

Attention: Mr. Kenneth W. Kirby
Director, Records &
Assessments

Gentlemen:

Attached for your files is a fully executed copy of an agreement covering the construction of the East Fork Hood River (Toll) Bridge on FAS 341.

We have retained a fully executed copy of this agreement for the Commission's records.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fkm
Attachment

cc H. S. Cox
(conformed agreement)

RECEIVED
JAN 14 1969

FO[illegible]
5-516(2)

7191

January 10, 1969

Board of County Commissioners
Hood River County
Courthouse
Hood River, Oregon 97031

MISC. CONTRACTS and
AGREEMENTS No. 3654

Attention: Mr. Kenneth W. Kirby
Director, Records &
Assessments

Gentlemen:

Attached for your files is a fully executed copy of an agreement covering the construction of the East Fork Hood River (Toll) Bridge on FAS 341.

We have retained a fully executed copy of this agreement for the Commission's records.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fkm
Attachment

cc H. S. Cox
(conformed agreement)

MEMO TO FILES: 12/24/68

East Fork Hood River (Toll) Bridge
Toll Bridge Road
FAS 341
Hood River County

After the contractor completes the structure, Hood River County will borrow material from the river bed of the East Fork Hood River for riprapping and for construction of the approaches to subject bridge. This material should be removed in a manner which will straighten the channel and by so doing will make the flow of the stream more desireable for the bents of the bridge. The State Highway Department will assist the County in straightening the channel by setting centerline and reference stakes.

It is the responsibility of the County to clear the project with the Fish and Game Commissions. & State Land Board.

Dmtt.

Harold Reynoldson

Harold Reynoldson
Planning Engineer
County and City Division

HR:eb

cc A. E. Almcrants, County Executive
Carlos Van Elsberg, Director of Public Works

bc L. W. Rulien
Ted Roake
C. G. Swenson
W. H. Tebeau

NOTED
ON HARWELL

RM PR-48
EV. 10-66)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

TRANSMITTAL AND REQUEST FOR INITIAL PROGRAM APPROVAL OF PROJECTS

(PPM 21-1)

STATE HIGHWAY DEPARTMENT	Oregon
DATE	Dec. 9, 1968
BY (Signature)	Mr. Young's Sept. 5, 1968 letter
TITLE	

CLASS OF FEDERAL FUNDS
☐ FAI ☐ FAP ☐ FAU ☒ FAS ☐ OTHERS

12-9-61

E 1* NOS. ______ THRU ______

STAGE 2 ITEM NOS. 1001 THRU 1002

	PROJECT NOS.	LENGTH (Miles)	TOTAL ESTIMATED COST	FEDERAL FUNDS	OTHER IDENTIFICATION AND/OR REMARKS (State) Location	Work
1001	S-516(2)	0.031	125,000	75,000	East Fork Hood River (toll) Br.	1 Struc.
1002	S-23-105(1)*	0.070	155,000	93,000	Malheur Riv. (Harper) Br. & Bully Creek (Westfall) Br	2 struc's.
			$280,000	$168,000		

* Project No. for IBM = S-23-10(501)

S-516(2)
7191

12-12-68
cox + Young

RKS (Division)

Item 1001 is classified as "Safety".

Item 1002: The 28-foot structure width justified by Mr. Prange's August 28 letter is approved as an exception to the Secondary Road Plan. Your statement on the UPRR crossing is accepted.

The provisions of IM 80-1-68 is not applicable to these two projects.

You are authorized to proceed with actions necessary to advance to completion the physical construction provided for by the above projects in accordance with the provisions of your approved Secondary Road Plan. If you subsequently find that exceptions to the procedure will be needed or that your proposed design standards other than approved above for these projects are lower than the minimum design standards as approved June 24, 1968, this office should be notified of such proposed exceptions and reasons thereof.

RECEIVED
DEC 12 1968

RECOMMENDED SIGNATURE AND TITLE	DATE	APPROVED SIGNATURE AND TITLE
	12/9/68	R. E. Simpson, Division Engineer

approval and any authorization to proceed with a Stage 1 project shall not constitute and commitment of Federal funds nor shall it be construed as creating in any manner, any obligation on the part of the Federal Government to provide Federal funds for the undertaking.

USCOMM-DC 18386-P66

Oregon State Highway Commission
State Highway Building
Salem, Oregon

10-2-68

NOTED
H. S. COX

Attention: County and City Division

SUBJECT: Federal Aid Project No. ____________________

Highway No. FAS 341

Project Name East Fork Hood River (Toll) Bridge

Gentlemen:

1. We hereby certify that, to the best of our knowledge and belief, all rights-of-way or rights-of-entry for the above referred to Federal-aid project have been secured.

2. We hereby certify that: (check one)

☒ There has been no displacement of persons from residences, farms, or businesses; or

☐ All displaced persons have been tendered all assistance possible and given all available information to assist in re-establishment in residence, farm, or business.

3. We hereby certify that the occupancy and/or adjustment of existing utilities within the right-of-way of the above referred to Federal-aid project have been authorized by permit, franchise, or other approved procedure.

Dated at Hood River, Oregon, this 2nd day of October, 1968.

Hood River County

Chairman

Commissioner

Commissioner

Copy to:- John Oakes
Ted Rooke
R.N. Chase
C.G. Swenson

RECEIVED
OCT 14 1968
ENGINEER
COUNTY & CITY DIVISION

(11/29/66)

NOTED
MAINOR C. HOLMES

NOTED
P. B. Arensmeier

NOTED
R. H. PRANGE
(12-7-66 150)

NOTED
RICHARD UNREIN

NOTED
DON HARWELL

MONTHLY TRANSACTION NO.

DATE SUBMITTED TO W. O.

FORM PR-1
(REV. 4-61)

FEDERAL - AID P

(PPM 2

CARD 2	REPORT NUMBER 1 (19) (20)	PROJECT LOCATION *(45 typewriter spaces)* Co.Rd. 1.25 Mi. East of Parkdale 21 65	**ADT**	PRESENT 180	FUTURE 290 (66) (70)	YEAR 88 (71)

CARD 3	CHARACTER OF PROPOSED WORK *(35 typewriter spaces)* One RCDG Bridge 28 62	NATL. FOREST (63) (65)	FH ROUTE NO. (66) (68)	SUPV AGCY (69)	DA CLASSIF. (70)	DA AREA (71)	EMERG. YR. (72) (73)	PL. AUTH (74)

CARD 4	CLASS OF FEDERAL FUNDS Secondary	COUNTY NAME Hood	
	NAME OF URBAN AREA 17-81	ROUTE NO. S	FEDERAL-AID 34

CARD 5	LINE NO.	CHANGE CODE	PROJECT CODE	WORK: CLASS	WORK: TYPE	STEP	TERMINI *(Full description)*	MILES	ESTIMATED PROJECT CO: TOTAL ESTIMATED COST	ESTIMATED PROJECT CO: FEDERAL FUNDS
1	(14-15)	(16	41	42	43 46	53	Co.Rd. 1.25 mi. East of Parkdale /East Fork Hood River (Toll) Bridge/	(54) (58)	(59) (66)	(67)
5					**PE**					
5					**ROW**					
5					**CONST** (CODE) Safety			0.031	125,000	75,000

CARD 1	CODE 1	PREPARED BY	PROJECT TOTALS	0.031	125,000	75,000
1	14	PROGRAM APPROVAL DATES			(16) (23)	(24)

Budget Bureau No. 41-R2067; Approval Expires February 28, 1966

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

65	**ADT**	PRESENT 180	FUTURE 290 (66) (70)	YEAR 88 (71) (72)	REGION 08	STATE NAME Oregon	STATE CODE 35 (2) (3)	APPN CODE 022 (4) (9)	ITEM NO. 1001 (14) (18)

SUPV AGCY (69)	DA CLASSIF. (70)	DA AREA (71)	EMERG. YR. (72) (73)	PL. AUTH YR (74) (75)	PROJECT NUMBER			I. Projects Only		
					PREFIX LETTER(S) S- 14 23	NUMBER 516(2) 7	SEQ. NO. 13	POST MI. (24) (26)	DESIG. 27

COUNTY NAME Hood River	CODE 027 (14) (16)	PROGRAM STAGE	
ROUTE NO. S	FEDERAL-AID 341 (32)	STATE Co.Rd. (36) (37)	U.S. (41)

☐ 1 OR ☒ 2

MILES (54) (56)	ESTIMATED PROJECT COST BY PHASES TOTAL ESTIMATED COST (59) (66)	FEDERAL FUNDS (67) (78)	STATE FUNDS	OTHER FUNDS	CHARACTER OF PROPOSED WORK *(Full description)*
					One RCDG Bridge Length 165', HC 36'
					ROW - 60' minimum; Access Control - none; Parking Restrictions - none.
0.031	125,000	75,000	25,000	25,000 (Co.)	
0.031	125,000	75,000	25,000	25,000 (Co.)	
	(16) (23)	(24) (33)			

REMARKS Relocation Assistance - None involved.
This project is being programed as a safety project to eliminate the traffic hazard created by a narrow bridge HC 17'. Project is listed in the May 1966 "Inventory of Hazardous Locations", Page 12, Line 2, Hood River County.

EAST FORK HOOD RIVER (TOLL) BRIDGE

Project S-516(2)

Existing Facilities

A steel through truss bridge 171 feet long on concrete abutments, have a H.C. of 17 feet.

Adjacent Sections

North End: 16-foot oil mat with 4-foot shoulders.

South End: same as north end.

Project Data

Construct a reinforced concrete bridge 165 feet long and 36 feet in width. This structure is to be on new alignment.

County will construct the approaches and connections, and will remove the existing bridge.

Road can be closed during construction so no detour is required.

Right of Way - 60-foot minimum
Access Control - None
RR Xing - None
Minimum Design Standards - No exceptions
System Action - Completed
Public Hearing - Not required

Unusual or Complicated situations - The survey which establishes the new alignment for the bridge also relocates a portion of this route. This new portion is to have 2-12' travel lanes with 6' shoulders. The County is developing a park a short distance from this bridge.

No relocation assistance required.

Route Data - S-516(1)

NOTED
H. S. COX

SAFETY: YES

MEMO TO R. N. CHASE Date August 30, 1968

FAS 341, HOOD RIVER COUNTY, EAST FORK HOOD RIVER (TOLL) BRIDGE SECTION

TERMINI: A bridge over the East Fork of the Hood River 0.56 mile southerly of the junction of FAS 341 with FAP 115. This bridge is approximately 1.25 miles east of Parkdale. M.P. 1.55

PROPOSED WORK: Structure

PROJECT LENGTH: 165 feet

COSTS:	TOTAL	FEDERAL	STATE	COUNTY	OTHER
CONSTRUCTION	$125,000	$75,000	$25,000	$25,000	

EXISTING FACILITIES: A steel through truss bridge 171 feet long on concrete abutments, having a H.C. of 17 feet.

ADJACENT SECTIONS:
NORTH/~~EAST~~ END: 16-foot oil mat with 4-foot shoulders.

SOUTH/~~WEST~~ END: same as north end.

PROJECT DATA: Construct a reinforced concrete bridge 165 feet long and 36 feet in width. This structure is to be on new alignment.

County will construct the approaches and connections, and will remove the existing bridge.

Road can be closed during construction so no detour is required.

RIGHT-OF-WAY: 60-foot minimum
ACCESS CONTROL: None

RR XING: None
MINIMUM DESIGN STANDARDS: No exceptions

SYSTEM ACTION: Completed
PUBLIC HEARING: Not required

UNUSUAL OR COMPLICATED SITUATIONS: The survey which establishes the new alignment for the bridge also relocates a portion of this route. This new portion is to have 2-12' travel lanes with 6' shoulders. The County is developing a park a short distance from this bridge.

NOTED
MAINOR C. HOLMES

NOTED
HAROLD
REYNOLDSON

No relocation assistance required.

NOTED
P. B. Arensmeier

NOTED ✓
[illegible] HARWELL

NOTED
R. H. PRANGE

ROUTE DATA: 8-516(1)

August 28, 1968
(date)

NOTED
H. S. COX

Project delayed
Fed Aid
Hold

Hood River County Board of Commissioners
Courthouse
Hood River, Oregon 97031

In order to comply with requirements of the Bureau of Public Roads covering protection of public resources such as recreational areas, historical sites, wild life refuges, or any other facility in which the public has a specific interest, it is required that local public authorities should be consulted regarding the impact on these resources of a planned highway improvement.

Would you please fill out the form below regarding these resources and return it to the Oregon State Highway Department, County and City Division, State Highway Building, Salem, Oregon (97310). Retain the second copy for your records.

NOTED
DON HARWELL

Highway FAS 341

Section East Fork Hood River (Toll) Bridge: Structure

Do you know of any public organization or quasi-official organizations that might be opposed to this project on the grounds of interference with recreational, historical, or public resources? Yes ☐ **No** ☒

If answer is yes, please list organizations:

NOTED
HAROLD
REYNOLDSON

9-4-68
(date)

By

By Jerry Routson
Commissioner

By
Commissioner

RECEIVED
SEP 12 1968
ENGINEER
COUNTY & CITY DIVISION

NOTED
R. H. PRANGE

NOTED
MAINOR C. HOLMES

Copy to L.H. Young - attn Deane Ridings

OREGON STATE HIGHWAY DEPARTMENT
CONSTRUCTION DIVISION
SOILS AND GEOLOGY SECTION
PROJECT BASE DESIGN

Page 1 of ___ Pages

Section EAST FORK HOOD RIVER (TOLL) BRIDGE Highway F.A.S. 341 County HOOD RIVER Prefix 514-1476

Res. Engr. J. S. Sawyer Approx. Length 0.12 Miles. Sta. ______ to Sta. ______ Date 8-1-63

Truck A.D.T. 26 Traffic Coefficient 5.9 18 kip s.a. per day 5.2 (Automobiles not considered)

Annual Precipitation 45"± (Parkdale) Frost Penetration 20"±

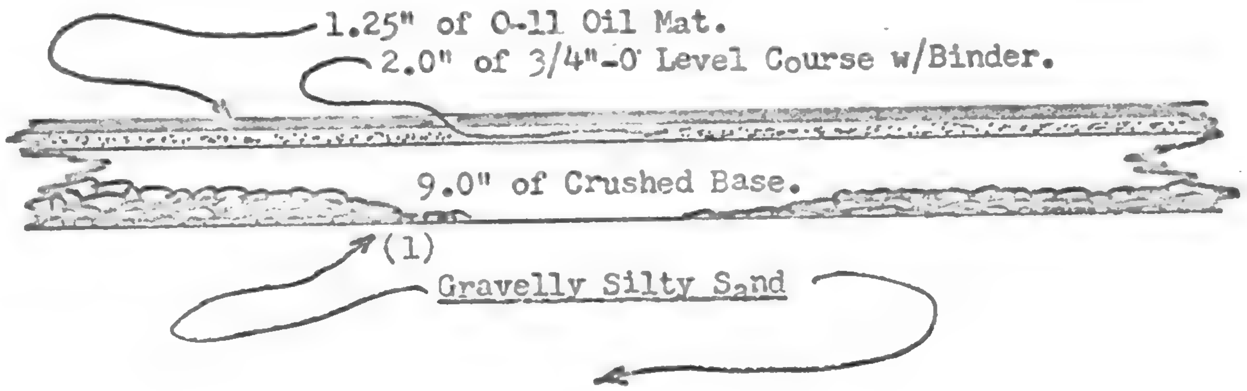
CBE Total Req.	Credit	Actual Thick.	
	1.5	1.25	0-11 Oil Mat
	2.0	2.0	Level
	9.0	9.0	Cr. Base
12.0	12.5	12.25	

AUG 19 1968

(1) Borrow
Typical Soil

[illegible]	LL
[illegible]	PI
56	%P 10
28	%P200
44	%Gravel
10	%C Sand
13	%F Sand
13	%Silt
10	%Clay
41	"R" Value

8-1-68



See remarks on Page 2.

AASHO CLASSIFICATION:
A-2-4

MATERIAL SOURCES:
To be determined
by [illegible] Engineer.

cc:
B.P.R.
Asst. State Highway Engineer
Construction Engineer
Engineer of Materials
Division Engineer
Resident Engineer
Office Engineer
Design Engineer
Division Geologist
~~Chief Locating Engineer~~
Rural Engineer
County-City Engineer (2)

Submitted by C. G. Gregg
for Staff Assistant

Recommended by O. A. Wilmot
Engineer of Materials

Recommended by [illegible]
Construction Engineer

Approved by Lloyd P. [illegible]
Asst. State Highway Engineer

EAST FORK HOOD RIVER (TOLL) BRIDGE
F.A.S. 341
HOOD RIVER COUNTY

"OTHER ROADS"

"R"	= 41							
TRAFFIC COEFFICIENT		0-11 WEAR SURF	or P.M.B.B. C.T.B.	3/4"-0 LEVEL COURSE	CRUSHED BASE	CR L.T.S. S.S.	"CBE" TOTAL REQUIREMENT	ACTUA THICK
CARS ONLY		1.25	- - - - -	2.0	7.5	- - - - -	11.0	10.75

Remarks:

The Surfacing Thickness Design is based on material from a "Borrow Area" suggested by C. Van Elsberg, County Roadmaster.

Hood River County will be responsible for the construction of the connections and approaches. Project Base Design provided to assure ample subgrade width.

Should substitutions be made use the "CBE" TOTAL REQUIREMENT column to obtain the "TOTAL THICKNESS REQUIRED" and the table below for values:

1.0" Asphaltic Concrete = 2.0" Crushed Base

1.0" Plant Mix Bituminous Base = - -" Crushed Base

1.0" Cement Treated Base = - -" Crushed Base

1.0" Oil Mat = 1.1" Crushed Base

1.0" Stone Subbase (Per Standard Specifications) (plus Supplementals.) = 0.8" Crushed Base

1.0" Lime Treated Subgrade = - -" Crushed Base

EAST FORK HOOD RIVER (TOLL) BRIDGE
F.A.S. 341
HOOD RIVER COUNTY

"OTHER ROADS"

"R"	= 41							
TRAFFIC COEFFICIENT		0-11 WEAR SURF	or P.M.B.B. C.T.B.	3/4"-0 LEVEL COURSE	CRUSHED BASE	CR L.T.S. S.S.	"CBE" TOTAL REQUIREMENT	ACTUA THICK
CARS ONLY		1.25	------	2.0	7.5	-----	11.0	10.75

Remarks:

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Hood River County will be responsible for the construction of the connections and approaches. Project Base Design provided to assure ample subgrade width.

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1.0"	Asphaltic Concrete	=	2.0" Crushed Base
1.0"	Plant Mix Bituminous Base	=	- -" Crushed Base
1.0"	Cement Treated Base	=	- -" Crushed Base
1.0"	Oil Mat	=	1.1" Crushed Base
1.0"	Stone Subbase (Per Standard Specifications) (plus Supplementals.)	=	0.8" Crushed Base
1.0"	Lime Treated Subgrade	=	- -" Crushed Base

TRAFFIC ANALYSIS

SECTION: EAST FORK HOOD RIVER (TOLL) BRIDGE

HIGHWAY: F.A.S. 341

COUNTY: HOOD RIVER

180 Present ADT (1968)

11 Percent Trucks

AXLES	TWO WAY TRUCK ADT	EXPANSION FACTOR	TOTAL TADT	MEAN TADT	ONE WAY EWL	AVERAGE ANNUAL EWL
2	13	1.6	21	17	450	7650
3	7	1.6	11	9	1000	9000
4	0	- -	- -	- -	1250	- - -
5	0	- -	- -	- -	3180	- - -
6	0	- -	- -	- -	2570	- - -
				26	TOTAL	

TOTAL AVERAGE ANNUAL DESIGN EWL 16,650

TWENTY YEAR EWL 333,000

TRAFFIC COEFFICIENT 5.9

SECTION: EAST FORK HOOD RIVER (TOLL) BRIDGE
HIGHWAY: F.A.S. 341
COUNTY: HOOD RIVER

PAVEMENT TYPE SELECTION

Principal Factors Governing Selection

1. Traffic Classification: See attached sheet
2. Soils Characteristics: See design chart attached
3. Weather: See design chart attached
4. Performance of Similar Pavements in Area: Good X Fair ____ Poor ____
   Remarks: ____
5. Cost Comparisons: See remarks

Secondary Factors Governing Selection

6. Adjacent Existing Pavements: A.C. or Oil
7. Stage Construction: Not applicable
8. Depressed, Surface, or Elevated Design: Surface
9. Conservation of Aggregates: See remarks
10. Stimulation of Competition: See remarks
11. Construction Consideration: Not a problem
12. Municipal Preference, Participating Local Government Preference, and Recognition of Local Industry: County prefers Oil
13. Traffic Safety: Not a problem
14. Availability of an Adaption of Local Materials or of Local Commercially Produced Paving Mixes: Local materials are adaptable to this type construction

CONCLUSION AND REMARKS:

No cost comparison made as this is a short project (0.12± mi.). See Items 6 and 12.

RECEIVED
AUG 1 1968

COMMISSIONERS
WAYNE E. PHILLIPS, BAKER
CHAIRMAN
JOSEPH W. SMITH, KLAMATH FALLS
VICE CHAIRMAN
JOHN P. AMACHER, WINCHESTER
J. PAT METKE, BEND
GEORGE L. HIBBARD, OREGON CITY

S-516 (2)
7191

A

MAILING ADDRESS
P. O. BOX 3503
PORTLAND, OREGON 97208

STATE OF OREGON
OREGON STATE GAME COMMISSION
1634 S. W. ALDER STREET
PORTLAND

July 31, 1968

Routing
Morgan
Decker
Bond
Barboe
Walker
Glenn
Swan
Pease
Morelock
Trout
Scott
Wills
Litchfield
Olson

RECEIVED
AUG 2 1968
CONSTRUCTION
DIVISION

State Highway Engineer
State Highway Department
Salem, Oregon 97310

Attention: Mr. F. D. Morgan

Dear Sir:

We are replying to your letter of July 22, 1968, which enclosed the prospectus for:

East Fork Hood River (Toll) Bridge Section
FAS 341
Hood River County

This project is approved. We concur with the remarks of the Oregon Fish Commission relative to the protection of migratory fish from any type of pollution resulting from the construction.

We appreciate the opportunity to comment on the plans.

Very truly yours,

P. W. SCHNEIDER
DIRECTOR

By R. O. Koski
R. O. Koski
Chief of Liberations

ROK:ln

8-1-68 Copies to: F. B. Klaboe
L. H. Young
Frank Hall
T. C. Roake
George Wills
J. F. Putnam (2)
fw

RECEIVED
AUG 1 1968
OFFICE OF
STATE HIGHWAY ENGINEER

Routing
Morgan
Dechant
Bond
Barbour
Walters
Glenn
Swan
Morolock
Trout
Scott
Wills
Litchfield
Olson

COMMISSION
GLENN L. JACKSON, CHAIRMAN
MEDFORD
FRED W. HILL, MEMBER
PENDLETON
THADDEUS B. BRUNO, MEMBER
PORTLAND

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JUL 31 1968

RECEIVED
JUL 23 1968
CONSTRUCTION DIVISION
S-516 (2)
7191

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

~~July 22, 1968~~
7-25-68

JUL 24 1968
RECEIVED
FISH COMMISSION
Director
Asst. Director
Fiscal Officer
Spec. Asst.
Auditor
Licenses
Fish Culture
Research
Engineering
Water Res.
Info-Ed.
Surname BURT

Mr. R. W. Schoning
State Fisheries Director
Fish Commission of Oregon
307 State Office Building
Portland, Oregon 97201

Dear Sir:

Enclosed is the following prospectus for a location survey proposed by the Oregon State Highway Department:

East Fork Hood River (Toll) Bridge Section
FAS 341
Hood River County

This data is forwarded to comply with Modification No. 1 dated May 19, 1965 of our Memorandum of Understanding dated September 12, 1963.

F. B. KLABOE

7-29-68 Copies to:
F. B. Klaboe
L. H. Young
Frank Hall
T. C. Roale
George Wills
J. F. Putnam (2)
fw

Very truly yours,

Forrest Cooper
State Highway Engineer

RECEIVED
JUL 29 1968
OFFICE OF
STATE HIGHWAY ENGINEER

By

F D Morgan
F. D. Morgan
Construction Engineer

SNR 7-25-68
Enc.

Dear Mr. Morgan,
The county should be made aware that there is substantial runs of fish in this system and that they should guard against depositing petroleum products, chemical wastes or excessive silt into the stream. Project approved,

BURT CARNEGIE
Hydraulic Engr.
cc:OGC

RECEIVED
JUL 24 1968
FOR FILING

S-516(2)

7191

Prefix No. 514-1476

LOCATION PROSPECTUS
EAST FORK HOOD RIVER (TOLL) BRIDGE SECTION
FAS 341 - HOOD RIVER COUNTY

HIGHWAY: Toll Bridge Road, FAS 341.

TERMINI: The northeasterly terminus is 0.44 mile southerly of the junction of FAS 341 with the Mt. Hood Highway (M.P. 83.97) which point is 1.0 mile southerly of the Mt. Hood Post Office. The southwesterly terminus is 0.56 mile southerly of the junction of FAS 341 with the Mt. Hood Highway (M.P. 83.97)

LENGTH: 0.12 mile.

PROGRAM: 1968 FAS-C Funds

NARRATIVE: This will be a location survey to prepare plans, specifications and cost estimates for replacement of a structure over the East Fork of Hood River. County to remove existing bridge and construct connections and approaches to new bridge. Road can be closed during construction, detour will not be required. Soils investigations will be conducted. Investigations of past high water data will be made to see if the design of this job will be affected. An economic analysis is not needed at this time.

TYPICAL SECTION: Two 12-foot travel lanes and 6-foot shoulders.

BASE: Tentative base design for construction is:

1-1/4" 0-11
2 " Leveling
9 " Crushed Base

12-1/4" Total

ACCESS: County jurisdiction.

NOTED
TOM EDWARDS

BRIDGE: New structure to have a horizontal clearance of 36 feet.

MATERIAL: Hood River County to provide material.

UTILITIES: Routine utility adjustments.

AGREEMENTS: Routine FAS-C project.

PARKS: None.

July 19, 1968
Attachment
cc: R. E. Simpson (3)
Forrest Cooper
F. B. Klaboe
Victor D. Wolfe
Tom Edwards
F. D. Morgan
J. F. Putnam (3)
Mark Astrup
R. N. Chase
H. S. Cox (2)
F. B. Crandall
W. N. Hackleman
Frank Hall
E. S. Hunter
Val Johnson
Ivan Merchant (4)
D. H. Moehring (3)
A. D. Olson
James Owens
Phil Preston (2)
Jack Rowland
Robert Royer
W. H. Tebeau
O. C. Turner
F. W. Yarbrough (2)
L. H. Young

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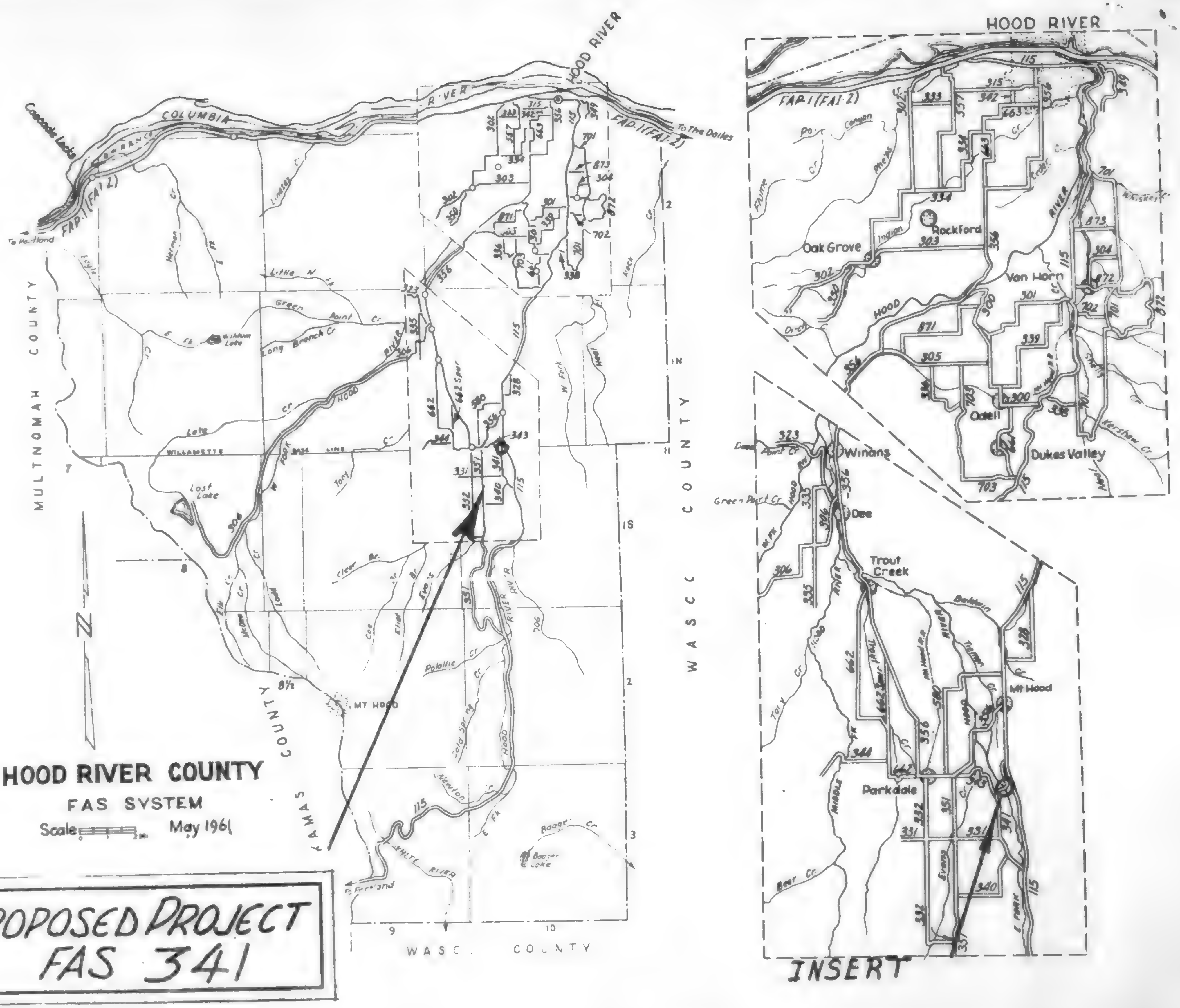
JUL 23 1968
OFFICE OF
STATE HIGHWAY ENGINEER


HOOD RIVER
COLUMBIA RIVER
Cascade Locks
To Portland
To The Dalles
FAP-1 (FAI-2)
MULTNOMAH COUNTY
WASCO COUNTY
KLAMAS COUNTY
Lost Lake
MT HOOD
WHITE RIVER
To Friend
Newton
Green Point Cr
Long Branch Cr
Wahtum Lake
Oak Grove
Rockford
Van Horn
Odell
Dukes Valley
Winans
Dee
Trout Creek
Mt Hood
Parkdale
INSERT
115
341
331
332
340
343
351
356
328
662
662 Spur
344
323
335
306
590

HOOD RIVER COUNTY

FAS SYSTEM

Scale May 1961

PROPOSED PROJECT
FAS 341

NOTED
H. S. COX

May 16, 1968

Hood River County Board of Commissioners
Courthouse
Hood River, Oregon 97031

Attention: Mr. A. E. Almcrantz

East Fork Hood River (Toll) Bridge
Toll Bridge Road (FAS 341)

Gentlemen:

After reviewing your application for subject bridge, and considering that the foot traffic on a bridge in such a remote area probably would be quite light, it is felt that the people would be better served by eliminating the sidewalks and increasing the bridge's roadway width. In this light, we suggest that the County reconsider and revise its request to eliminate the sidewalks and increase the roadway width of the bridge.

Rough estimates were prepared for comparison of cost on the above suggestion. The estimated cost for a bridge with a 28-foot roadway and two 5-foot sidewalks (38-foot total), as originally requested by the County, would be approximately $217,000. The estimated cost for a bridge 2 feet narrower, i.e., 36 feet in width, with no sidewalks would be approximately $200,000.

Very truly yours,

H. S. Cox
County and City Engineer

By

NOTED
HAROLD
REYNOLDSON

HR
Harold Reynoldson
Planning Engineer

HR:mm

NOTED
R. H. PRANGE

NOTED
MAINOR C. HOLMES

NOTED
RICHARD UNREIN

NOTED
P. B. Arensmeier

NOTED
DON HARWELL

Safety Project

RECEIVED
MAY 13 1968
ENGINEER
COUNTY & CITY DIVISION

BRIDGE PROJECT REQUESTED BY Hood River COUNTY Date April 24, 1968

Is this to be a County project? ___ Yes X No

Is this to be an FAS-C project? X Yes ___ No

NOTE: For County Road projects, County is required to pay for all items marked with an asterisk.

For FAS projects omit questions marked with an asterisk.

1. County Road Name Toll Bridge Road

FAS Number 341

2. Name of river or stream East Fork Hood River

3. Name of bridge Toll Bridge

4. Location (Please attach map with location marked):

Section 5 Township 1S Range 10 East W.M.

5. Desired width of bridge 36 ~~25~~ feet

6. Are sidewalks desired? ~~X~~ Yes X No

7. Width of sidewalks ~~standard~~

8. Is sidewalk desired on upstream side of bridge? ~~X~~ Yes X No

9. Is sidewalk desired on downstream side of bridge? ~~X~~ Yes X No

10. Does County wish a particular type of bridge design? X Yes ___ No

If "Yes," explain type desired:

Prestressed concrete

11. Will County furnish any materials for bridge? ___ Yes X No

Explain:

*12. Does County wish State Highway Department to run survey and prepare vicinity map at County expense? X Yes ___ No

13. Will County run survey and furnish vicinity map? ___ Yes X No

14. Will County furnish foundation data? ___ Yes X No

ccr-61-a

*15. Does County wish State Highway Department to make foundation tests at County expense? _X_Yes ___No

16. Can road be closed during construction? _X_Yes ___No

17. Will detour be required? ___Yes _X_No

18. Will detour be constructed and maintained by County? ___Yes _X_No

19. Will detour be constructed and maintained by contractor? ___Yes _X_No

20. Will County construct approaches or connections? _X_Yes ___No

21. Will contractor construct approaches or connections under contract? ___Yes _X_No

22. State width of traveled roadway: __20 feet__ Width of shoulders: __2 feet__

23. Will additional right-of-way be required? ___Yes _X_No
NOTE: Right-of-way costs must be paid by County.

24. Will additional right-of-way be acquired by deed ____, resolution____?

25. Does County wish State to prepare option forms for County's use in acquiring right-of-way? ___Yes _X_No

26. Will old bridge remain in place? ___Yes ___No Depending on new location

27. Will old bridge be removed by contractor? ___Yes _X_No

28. Will old bridge be removed by County? _X_Yes ___No

29. Does County wish old bridge salvaged for future use? ___Yes _X_No

*30. If project is County bridge, does County wish State Highway Department to furnish construction engineering and inspection at County expense?
___Yes ___No

31. Does County wish State Highway Department to advertise and accept bids?
_X_Yes ___No (If County project, bids must be referred to County for County to award contract.)

32. Does County wish lightpost bases and conduit installed? ___Yes _X_No

33. Does County wish complete job of illumination in project? ___Yes _X_No

34. Will any of the following utilities be attached to this structure?

(a) Water mains: X Yes __ No Size 12

2-8" lines Req'd by County 4/20/68

(b) Sanitary sewer mains: __ Yes X No Size ________

(c) Storm sewer: __ Yes X No Size ________

(d) Gas mains: __ Yes X No Size ________

(e) Power lines: __ Yes X No

(f) Telephone lines: __ Yes X No

(g) Other utilities? ________

35. What is desired date for letting? August, 1968

Remarks Utility holes will be required for future use

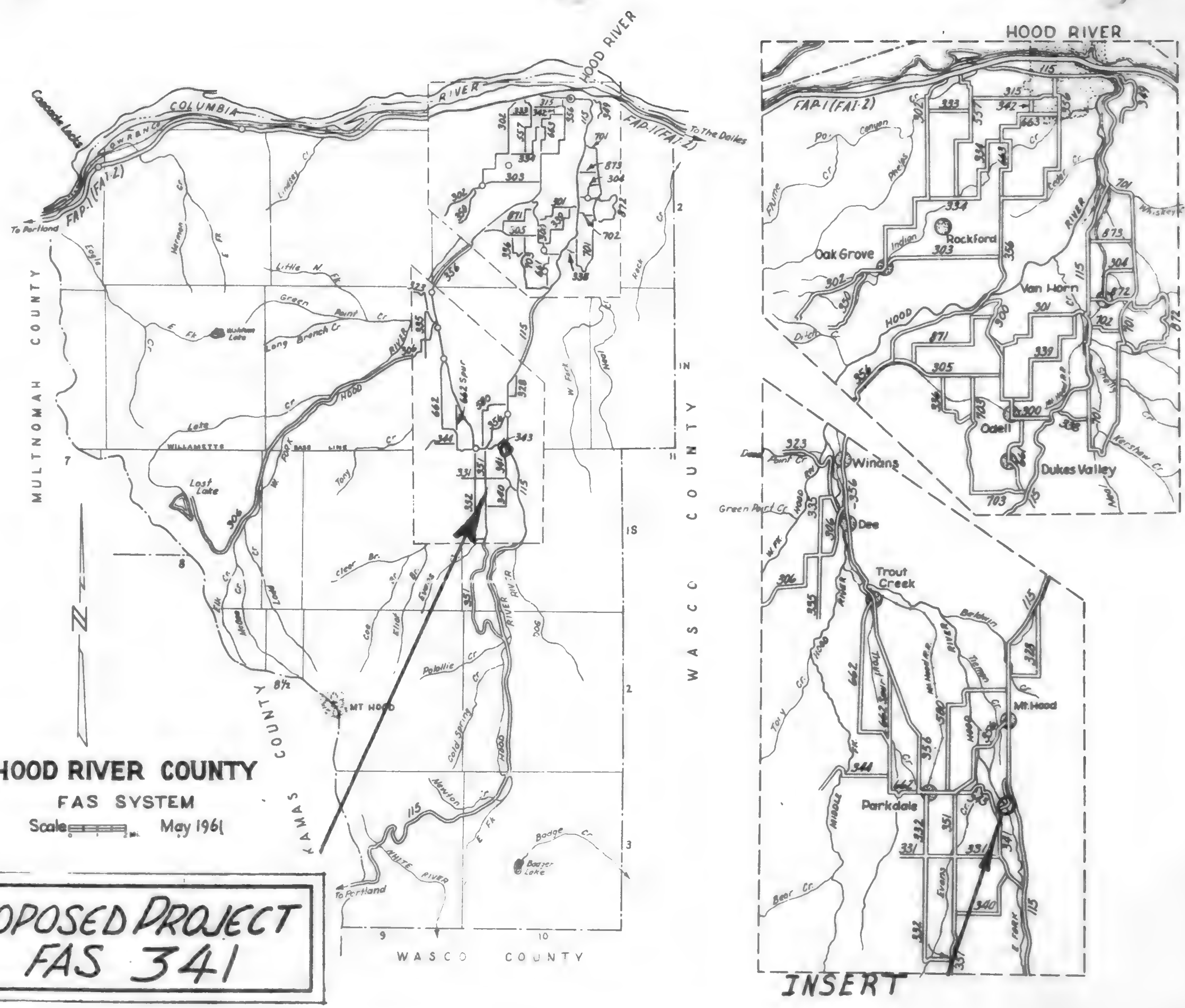
Approved May 1, 1968

By Board of Commissioners

By G. E. Almerantz
County Executive

Called Curtis [illegible] Company concerning water mains on [illegible]. He requested there be an 8 inch and a [illegible] inch. [illegible] also [illegible] hole for a [illegible] line. [illegible]

[illegible] water line [illegible] attached [illegible].


HOOD RIVER
COLUMBIA RIVER
Cascade Locks
FAP-1 (FAI-2)
To Portland
To The Dalles
MULTNOMAH COUNTY
WASCO COUNTY
KAMAS COUNTY
Lost Lake
MT HOOD
WHITE RIVER
Badger Lake
115
306
323
335
336
341
343
344
662 Spur
INSERT
Oak Grove
Rockford
Van Horn
Odell
Dukes Valley
Winans
Dee
Trout Creek
Mt. Hood
Parkdale

HOOD RIVER COUNTY

FAS SYSTEM

Scale 0 1 2 Mi. May 1961

PROPOSED PROJECT
FAS 341

20-1145 Lincoln Co. Line-Squaw Cr. Sec. 1969
of Oregon Coast Hwy., S. of Yachats
#7192 (Shoulder widen. & pav.)

RECEIVED
DEC 29 1970

21-1145

7192

December 29, 1970

J. H. Baxter and Co.
1618 S. W. 1st Avenue
Portland, Oregon 97201

Attention: Charles B. Schmokel

Gentlemen:

Back in October you wrote to us concerning a change made in the Oregon law effective August 1969 pertaining to notification by a supplier of materials furnished to a subcontractor.

This matter has been discussed with our attorneys. As far as our position is concerned, it appears that we should continue to honor claims filed with us as outlined in ORS 279.526(1) as we would have no certain way of knowing if the provisions required under 279.526(2) had been complied with or not.

Also there is doubt as to whether the State should be involved in determining the legality of a claim filed as pertains to (2). It has long been our policy to accept claims which have been properly filed with us without attempting to determine the validity of the claim. If we were to try to determine validity, it could very easily put us in a position of "judge and jury" which would not be appropriate as many claims are controversial.

This letter has probably not answered your problem which seems to be one which would require advice by your legal counsel.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

FQ:fkm

NOTED
C. W. HEAD

Cc ✓

LEE JOHNSON
ATTORNEY GENERAL

DIARMUID F. O'SCANNLAIN
DEPUTY ATTORNEY GENERAL

DEPARTMENT OF JUSTICE
507 State Highway Building
SALEM, OREGON 97310
TELEPHONE: (503) 378-4402

TRIAL DIVISION

THOMAS D. O'DELL
CHIEF TRIAL COUNSEL
WALLACE CARPENTER
ASSISTANT CHIEF TRIAL COUNSEL

LEONARD I. LINDAS
KEITH R. MALONEY
ASSISTANT ATTORNEYS GENERAL AND COUNSEL

JAMES A. BLEVINS
JAMES P. CRONAN
QUINTIN B. ESTELL
MICHAEL GILLETTE
LAWRENCE J. HALL
LESLIE B. HAMPTON
ROBERT A. HOLLAND
DONALD J. HOWE
JAMES F. LARSON
JOHN R. MCCULLOCH
FRANK C. MCKINNEY
EARL M. PRESTON
GEORGE E. ROHDE
JAMES A. SANDERSON
JACK L. SOLLIS
CARLOTTA H. SORENSEN
ASSISTANT ATTORNEYS GENERAL

December 2, 1970

Mr. Floyd Query, Secretary
Oregon State Highway Commission
121 State Highway Building
Salem, Oregon 97310

Re: Request for Status
Clarification of Claim
Against Contractors
Bond by J. H. Baxter and
Company

Dear Mr. Query:

In reply to your letter of October 20, 1970, to Mr. Lindas concerning a request by J. H. Baxter and Company for a clarification of their claim status on Contract No. 7192, the following is offered.

After reviewing the applicable law and the facts as set forth in the letter from J. H. Baxter and Company, it is our judgment that they have not met the requirements of the statute for making a claim on the prime contractor's bond.

I would suggest, however, that they contact their private attorney and secure his opinion on the matter.

Very truly yours,

LEE JOHNSON
Attorney General

Jack L. Sollis
Assistant Attorney General
Trial Division

JLS:gc

FORM E-30 50M 10-65

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
October 20, 1970

SUBJECT:

To: Mr. L. I. Lindas
Chief Counsel

RECEIVED
OCT 21 1970
LEGAL

REFERRED 10/21/70
TO Sollis
FOR Opinion - Let Query know.
LEONARD I. LINDAS

Attached is a copy of a letter from J. H. Baxter and Company concerning notification by a material supplier to a prime contractor in re to materials supplied to a subcontractor within 90 days after supplying the material.

The question I have in mind is, does this requirement have any bearing on the statute that we have been following which requires the filing of a claim with us by the claimant within six months after the contract has been accepted.

Floyd Query
Floyd Query, Secretary

FQ:fkn

Attachment

WOOD PRESERVING 1618 S.W. 1st Avenue Portland Oregon 97201 Phone 503 227 2574

JHBaxter

October 19, 1970

CBS:273

Oregon State Highway Commission
State Highway Building
Salem, Oregon

Attention Floyd Query

Gentlemen:

Per the suggestion of Mr. Leonard Lindus, we would like you to obtain a legal decision on a contractor notification procedure. Please refer to Oregon State Highway Department Contract No. 7192, J. C. Compton, Prime Contractor.

We understand this job was accepted January 19, 1970. Under past Oregon State laws we had six months after acceptance of contract to file our notification. Such notification was filed in April against Olson-Campbell, guardrail contractors, for material supplied on this contract. However, August 22, 1969, State law No. 279.526 amended the State law and required notification by a material supplier to a prime contractor in regard to material supplied to a subcontractor within 90 days after supplying material. Contract No. 7192 was started prior to the August 22, 1969 date, and we supplied material on this job prior to that date.

We would like to know if we are properly filed and can recover money from the prime contractor when we were filed within six months after acceptance date, but were not filed within 90 days after shipping materials.

Please advise your opinion.

Very truly yours,

J. H. BAXTER & CO.

Charles B. Schmokel

ss

RECEIVED
OCT 20 1970
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
OCT 2 - 1970

FOR FILING

30-1145

7192

October 1, 1970

CBS:246

J. C. Compton
Box 86
McMinnville, Oregon

Gentlemen:

Subject: OSHD Contract No. 7192

April 3, 1970, we notified the State of Oregon that we supplied guard rail posts & blocks on the above contract to Olson-Campbell, Inc., in the amount of $5,720.00. Our claim is filed with the Secretary of State and you were notified by the Highway Commission.

To date, we have not been paid the above amount and it appears we will not be paid by Olson-Campbell. We hope to avoid litigation, but we will proceed with our suit if no other arrangements can be made in the near future. Please advise how you wish to handle this claim by October 12, 1970.

If you need copies of invoices or other information, please let us know.

Very truly yours,

J. H. BAXTER & CO.

A. W. Irwin
District Sales Manager

cc: Hansen & Rowland, Inc., United Pacific Insurance
Oregon State Highway Commission
Olson-Campbell

ss

RECEIVED
OCT [illegible] 1970
OREGON
STATE HIGHWAY COMMISSION

NOTED
C. W. HEAD

NOTED
FLOYD QUERY

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

RECEIVED
MAY 5 - 1970

April 27, 1970

J. H. Baxter & Company
1618 S.W. 1st Avenue
Portland, Oregon 97201

20-1115
1192

4504

FILED
APR 28 1970
CLAY MYERS
SECRETARY OF STATE

Apr 28 2 03 PM '70
CLAY MYERS
SECRETARY OF STATE

Gentlemen:

This is in reply to your letter of April 3 advising us that Olson-Campbell, Inc., owes you for guardrail posts and blocks in the amount of $5,720.00. This appears to be in reference to the J. C. Compton Company Contract No. 7192 for grading and paving on the Lincoln County Line-Squaw Creek Section of the Oregon Coast Highway in Lane County.

The United Pacific Insurance Company through Hansen & Rowland, Inc. of Oregon, Henry Building, Portland, furnished the performance bond on this contract. We will advise them of the receipt of your claim and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been satisfied.

Very truly yours,

NOTED ON CARD
4-30-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

RECEIVED
[illegible]
STATE HIGHWAY COMMISSION

cc United Pacific Ins. Co.
Hansen & Rowland, Inc. of Oregon
J. C. Compton Company

bc Commission
✓Secretary of State

- Please acknowledge receipt of this claim on the enclosed copy of this letter.

JHBaxter

April 3, 1970

CBS:86/7192

Oregon State Highway Commission
State Highway Building
Salem, Oregon

Attention Floyd Query

Subject: OSHD Contract #7192

Please consider this letter notification that J. H. Baxter & Co. supplied Guard Rail Posts & Blocks on the above contract to Olson-Campbell, Inc. The invoiced amounts were $5,720.00. To date, we have not been paid.

Please be advised that we look to the bonding company involved for payment if we cannot make satisfactory arrangements with Olson-Campbell.

Very truly yours,

J. H. BAXTER & CO.

C. B. Schmokel

CBS:ss

NOTED
FLOYD QUERY

RECEIVED
APR [illegible] 1970
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
MAR 5 - 1970
FOR FILING

50-1145
7192

39 (3)
2-3-70

February 10, 1970

J. C. Compton Company
P. O. Box 86
McMinnville, Oregon 97128

Gentlemen:

The State Highway Commission at its meeting on February 3, 1970, granted a 63-day time extension on Contract No. 7192 on the Oregon Coast Highway in Lane County, thereby eliminating all liquidated damages.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

sj

cc F. D. Morgan
V. E. Skoog
R. D. Asburry
H. H. Patterson

H—930 (Rev.)—[illegible]—10-57

OREGON STATE HIGHWAY COMMISSION

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon

Date October 22, 1969

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from 165 days to 228 days, within which to complete our Contract No. 7192, without the assessment of liquidated damages. The said contract is described as follows:

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows:

"See Attached"

Respectfully submitted,

J. C. Compton Company
Contractor

By

CONSENT OF SURETY

Date October 23, 1969

We, UNITED PACIFIC INSURANCE COMPANY, as surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

R. T. Duren, Jr.
R. T. Duren, Jr.
Attorney-in-fact

HANSEN & [illegible], INC. OF OREGON
Henry Building
[illegible] Oregon

Resident Agent
By Ethel [illegible]
Resident Agents For Oregon

(SEAL)

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 7192 Contractor L. C. Compton Co.

Highway Oregon Coast

Section Lincoln County Line-Squaw Creek

Kind of Work Grade - Pave

It is recommended that the request for increase in the number of workdays within which to complete said contract be ~~DENIED or~~ GRANTED. The reasons for such recommendation are as follows: Recommend 63 days extension for guardrail added on structures under Extra Work Order 4 and overruns of guardrail bid items.

Recommended for Approval:

R. D. Asburry
Division Engineer

for
Construction Engineer or ~~Bridge Engineer~~

~~Assistant~~ State Highway Engineer

Contract No.
Project designation .... State-Federal
Date awarded
Work started
Per cent completed .... Date
No. of Workdays Allowed
No. of Workdays Used
No. of Added Workdays Requested

RECEIVED
FEB 9 1970
FOR FILING

2C-1145

7192

c

February 9, 1970

United Pacific Insurance Company
Fidelity & Surety Department
P. O. Box 1216
Tacoma, Washington 98401

Gentlemen:

A post-final payment for $6,300 will be made to J. C. Compton Company on Contract No. 7192 for grading and paving on the Lincoln County Line-Squaw Creek Section of the Oregon Coast Highway in Lane County as soon as the warrant is prepared.

The total amount paid on this contract will be $172,366.69 including the post-final payment. Of the total, $19,465.07 is for force account.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

sj

cc J. C. Compton Company
P. O. Box 86
McMinnville, Oregon 97128

bc Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Herr
Carroll T. Keasey

RECEIVED
JAN 21 1970
FOR FILING

20 - 1145

7192

January 20, 1970

Oregon State Highway Commission

Gentlemen:

Request for Extension of Time
No. 3
February 3, 1970 meeting

J. C. Compton Company has requested a 63-day time extension on the Lincoln County Line-Squaw Creek widening project on the Oregon Coast Highway, Contract No. 7192, in Lane County. The request is based on unanticipated extra work and overrun of guardrail quantities.

The extra work referred to was a significant addition to the contract to install protective guardrail between the sidewalk and roadway areas of three existing structures. This involved some time-consuming, close tolerance work to attach the posts to the existing concrete structures. Guardrail was also added at other locations for greater traffic safety causing the contract guardrail items to overrun 22 percent. The main portion of the contract for widening and paving of additional roadway width was completed well before the contract time allowed had expired. All work was completed October 14, 1969, with 63 days liquidated damages accrued in the amount of $6,300. Because of the guardrail overrun and special added guardrail work on structures, I recommend a 63-day time extension which will delete all liquidated damages. This is a State project.

This matter will be on the agenda for the February 3 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
F. B. Klaboe
Victor D. Wolfe
F. D. Morgan
V. E. Skoog
R. D. Asburry

JAB:ss sr

B—820 (Rev.)—5M—10-57

OREGON STATE HIGHWAY COMMISSION

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon

Date October 22, 1969

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from 165 days to 228 days, within which to complete our Contract No. 7192, without the assessment of liquidated damages. The said contract is described as follows:

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows:

"See Attached"

Respectfully submitted,

J. C. Compton Company
Contractor

By

CONSENT OF SURETY

Date October 22, 1969

We, UNITED PACIFIC INSURANCE COMPANY
, as

surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

H. T. Dawson,
Attorney-in-Fact
HANSEN & ROWLAND, INC. OF OREGON

(SEAL)

Resident Agent
By Ethel Wolf
Resident Agents For Oregon

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 7192 Contractor J. C. Compton Co.

Highway Oregon Coast

Section Lincoln County Line-Squaw Creek

Kind of Work Grade - Pave

It is recommended that the request for increase in the number of workdays within which to complete said contract be ~~DENIED or~~ GRANTED. The reasons for such recommendation are as follows: Recommend 63 days extension for guard rail added on structures under Extra Work Order 4 and overruns of guardrail bid items.

Recommended for Approval:

R. D. Asburry
Division Engineer

for
Construction Engineer ~~or Bridge Engineer~~

F B Klaboe
~~Assistant~~ State Highway Engineer

Contract No.
Project designation State-Federal
Date awarded
Work started
Per cent completed Date
No. of Workdays Allowed
No. of Workdays Used
No. of Added Workdays Requested

FORM E-30 (12-67)

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
January 6, 1970

SUBJECT: Lincoln County Line-Squaw Creek Section
Contract No. 7192
Request for Time Extension

To:

Mr. F. B. Klaboe
Assistant State Highway Engineer
BUILDING

J. C. Compton Company requests a 63-day time extension on this project and offers basically two reasons -- unanticipated force account work and overrun of guardrail quantities.

Bids were opened on this project January 9, 1969 but the time was on a calendar workday basis, so did not start to accrue until March 1. The 165 days allowed elapsed on August 12. The widening (done by equipment rental) and the paving work were completed by July 14. The guardrail work was started on July 21. The guardrail items overran 1,120 feet or 22 percent, but the contract rail work was completed by August 20 or 8 days after the contract time had elapsed. From August 20 until the project completion date of October 14, the only work on the project was force account work, mainly under Extra Work Order No. 4 which added special rail installations across three structures which have sidewalks. Some force account guardrail work was also performed prior to August 20 and in effect delayed the regular contract work completion by an estimated 3 days. The overrun in the contract quantities would justify extension for the remaining 5 days up to August 20.

Since the 55 days charged after August 20 were all on force account work, extension for this time is justified even though the contractor did work intermittently and probably took longer than necessary. We therefore recommend a total of 63 days extension which would delete all liquidated damages. This accrued at the rate of $100 per day for a total of $6,300.

This was a State project. A rough draft letter to the Highway Commission is enclosed.

RECEIVED
JAN 19 1970
OFFICE OF
STATE HIGHWAY ENGINEER

F. D. Morgan
Construction Engineer

By
John A. Bond
Construction Administration Engineer

RECEIVED
JAN 16 1970
OFFICE OF
STATE HIGHWAY ENGINEER

JAB:fw
Enc.
cc: V. L. Gallagher

OLSON - CAMPBELL, INC.
General Contractors

ROUTE 1 BOX 391
HILLSBORO, OREGON 97123
648-6901

Sept. 16, 1969

J. C. Compton Company
P.O. Box 86
McMinnville, Oregon 97128

Re: Lincoln County Line-Squaw Creek Sec.
OSHD Contract #7192

Gentlemen:

Our portion of the contract work on this project was completed to the inspectors satisfaction by noon on August 20, 1969. As this was eight days beyond the original contract completion date we ask that you make a request for an extension of time in accordance with Article 8.8 of the standard specifications for the following reasons:

1. In order to complete our contract work we first had to perform considerable unanticipated force account work. This is substantiated by force account records.

2. Additional time was required for completion due to significant changes in the following bid items:
    a. Item 19 - increased approx. 25%
    b. Item 20 - increased approx. 20%
    c. Item 23 - increased approx. 60%

3. Since completion of the contract work on August 20th we have been performing force account work. Due to changes, errors in the original plans and other unexpected problems completion of this work now appears to be about two weeks away.

If we can be of further help in securing a time extension please call.

Very truly yours,

OLSON-CAMPBELL, INC.

C H Olson

C. H. Olson

CO:bj

RECEIVED
JAN 20 1970

FILING

26-1145

7192

January 20, 1970

United Pacific Insurance Company
P. O. Box 1216
Tacoma, Washington 98401

Gentlemen:

On January 19, 1970 we wrote to you concerning release of final payment on Contract No. 7192 awarded to J. C. Compton Company for grading and paving the Lincoln County Line-Squaw Creek Section of the Oregon Coast Highway in Lane County.

Final payment on this contract is $2,618.83 and the total contract amount is $166,066.69 including $29,465.07 for work performed under force account.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fsn

cc J. C. Compton Company
P. O. Box 86
McMinnville, Oregon 97128

Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Kerr
Carroll Keasey

RECEIVED
JAN 19 1970
FOR FILING

25-1145

7192

January 19, 1970

Oregon State Highway Commission

Gentlemen:

Work was completed October 14, 1969, on Contract No. 7192. The contract was with J. C. Compton Company and was for grading and paving on the Lincoln County Line-Squaw Creek Section of the Oregon Coast Highway in Lane County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective January 19, 1970, and that you concur in this procedure at the Commission meeting on February 3.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
F. B. Klaboe
Victor D. Wolfe
V. E. Skoog
F. D. Morgan
L. H. Young
C. T. Keasey

srb sr

20-1145
7192

C

FORM E-1 (REV. 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: Lincoln Co. Line-Squaw Crk.

WEEK ENDING: 22 Nov 69

SECTION PREFIX: 20-1145

HIGHWAY: Oregon Coast

COUNTY: Lane

NAME OF JOB: Squaw Creek
[illegible]

KIND OF WORK: Grading & Paving

CONTRACTOR: J. C. Compton Co.

CONTRACT NUMBER: 7192

FEDERAL AID PROJECT NUMBER: State

DATE OF CONTRACT: 14 Jan 69

DATE WORK STARTED: 12 Mar 69

ESTIMATED COMPLETION DATE:

AVERAGE FORCE ON PROJECT FOR THE WEEK:

MEN: SUPERVISION:

SPECIFIED WORK DAYS:

WORK DAYS USED:

SPECIFIED CALENDAR DAYS: 165

CALENDAR DAYS USED: 228

SPECIFIED COMPLETION DATE:

PERCENT OF TIME ELAPSED: 136

PROJECT AUTHORIZATION: $ 203,025.39

EXCLUSIVE OF ENGINEERING: $ 186,936.46

ENGINEERING AUTHORIZATION: $ 16,098.93

PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 100

ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 171,217.56

ENGINEERING COST TO DATE: $ 26,387.54

PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 100

ESTIMATED PERCENT: [illegible] UNDERRUN 8.4 %

PERCENT OF AUTHORIZATION: 164 %

DATE PROJECT WAS COMPLETED: 14 Oct 69

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT	5.00	5.00			5.00
MILES PARTIALLY COMPLETED					
MILES COMPLETED	5.00	5.00			5.00
TOTAL ESTIMATED QUANTITIES (CONTRACT)	eq. rental	13,400			7,100
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE		9,360			6,066
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK.

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY	rain			
MONDAY	showers			
TUESDAY	overcast			
WEDNESDAY	overcast			
THURSDAY	rain			
FRIDAY	showers			
SATURDAY				

Routing

RECEIVED
NOV 21 1969
CONSTRUCTION
DIVISION

E

NOTED
R. D. CHURCH

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

16 Nov 69 SUNDAY	
17 MONDAY	
18 TUESDAY	
19 WEDNESDAY	
20 THURSDAY	
21 FRIDAY	
22 Nov 69 SATURDAY	

REMARKS

Recommendation received from Game Commission representative to release contractor , as concerns gravel bar.
Semi-final estimate delivered to the Division office on Wednesday, 19 Nov 69.

FINAL WEEKLY REPORT ON THIS PROJECT.

SIGNED H. V. Patterson LOCATION Newport 97365

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

SP*F218

RECEIVED
APR 28 1969
FORM 2-30 (12-67)
FOR FILING
20-1145
7192

1 — 1145

RECEIVED
APR 25 1969
CONSTRUCTION
DIVISION

E

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
April 24, 1969

SUBJECT: Lincoln County Line-Squaw Creek
Oregon Coast Highway
Contract No. 7192
Prefix 20-1145

To: F. D. Morgan
CONSTRUCTION ENGINEER

Klaboe

I was recently contacted by the contractor on the subject contract wherein he requested an extension of the subject contract to include an overlay on the subject project. He indicated if we would extend the contract for this he would reduce his bid price on A.C. $1.00 for the overlay quantities. I personally can not get too excited regarding this as we have other sections of road needing an overlay more than this one, although it would be a larger betterment to have an overlay on this project. I believe the price indicated by the contractor for the A.C. is much better than we could ever anticipate to get on a separate contractofor the overlay. It would take roughly 4,000 tons of additional A.C. to do an overlay 22 ft. wide. There would also be some additional costs in additional rock, etc, which we have not gone to the trouble to figure.

If the overlay was approved the shoulder paving would have to be raised so that the last lift of shoulder would coincide with the overlay. We did not give the contractor much hope of this being done. He indicated that he would like to go to higher authority regarding this. He was advised that this was his privilege and that we would forward his request to you for your consideration before he met with you.

Attached for your information is a copy of some general observations regarding this overlay as made by Assistant Division Engineer Wimer together with some analyzation of monies made by Resident Engineer Patterson.

R. D. Asburry
R. D. Asburry
DIVISION ENGINEER

RECEIVED
APR 25 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RDA:lf
Attach.

4-25-69
Have talked this over with Walker, we feel 1" overlay will not improve the riding qualities or be thick enough to materially strengthen this section. Recommend delay overlay until we can get more depth. ML

Squaw Creek

General Observations, April 16, 1969

Old 1/4 patches almost continuous throughout project. Numerous areas of ragged pavement edges from widening. Some pavement irregularities that would be better smoothed with an overlay than with patching. Pavement in fair condition with some localized failure, primarily in the center 1/3. The failures could be patched and should be, even before overlaying. Doubt that we can obtain same quality of patching from contractor. In summary we could live without an overlay if necessary, but we would by overlaying, improve:

1. Appearance
2. Strength
3. Riding Characteristics
4. Ease of construction
5. Eliminate surface joint about 2½ feet into travel lane from shoulder stripe.

H. H. PATTERSON
Resident Engineer

20-1145

AH 5-10 50M 10-68

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Newport, Oregon
11 March, 1969

SUBJECT: Overlay Analysis
Lincoln Co. Line-Squaw Creek Sect.
Oregon Coast Highway
Contract No. 7192

To:

Mr. R. D. Asburry
Division Engineer
Salem

Att'n: Mr. G. Wimer

The possibility of obtaining an overlayment of the full roadbed on the subject section has been considered. I do not believe it to be feasible at the present time, based on the following analysis:

MONEY AVAILABLE:	
AC, Bid Item No. 12	$66,385.00
Reduction in Grading Items	1,000.00
Contingency balance	5,451.11
5% Overrun (.05 X 203,025.39)	10,151.27
TOTAL	$82,987.38

The reduction on the grading items has been arrived at as follows:

Bid Item No. 5, Motor Grader	$ 8,000.00	
Bid Item No. 6, Loader	5,170.00	
Bid Item No. 8, Dump Truck	5,590.00	(#7 is all pipe work)
Bid Item No. 9, Laborer	2,500.00	(5,000.00 saved for pipe work & flag.)
	$21,260.00	

Although a direct proportion on the basis of depth would be 1/11 of this amount, or $1,933.00 for each inch of overlay, I do not believe that the savings will in fact be attainable to this degree and I have therefor used the token amount of $1,000.00 instead.

The contingency money has been reduced to cover all work orders written to date, including the seeding and mulching which might be withheld. Still to be written is a P.A. for AS-1 to tack the pavement edge, for which no price has been quoted. This should be minor in nature unless the overlay is authorized, in which case it will require approximately 40 tons and will add about $2,400.00 to the cost.

MAR [illegible] 1969
ROUTE
ASBURRY G
CANFIELD

A/C QUANTITIES REQUIRED

Shoulders:	10' X 26,400' X 3" X .00642	=	5,085 Tons
Approaches	75(16' X 20' X .00642)	=	308 (approx)
Patching:		=	1,000
Overlay:	22' X 26,400' X 1" X .00642	=	3,729
	Subtotal		10,122
	5% allowance		506
	TOTAL		10,628 Tons

At the bid price of $9.35/ton, this would cost ~~$99~~,372.00, though some of the patching could quite possibly be eliminated if the entire section is overlaid.

If the money available is reduced by the estimated cost of the tack coat, this leaves us $80,587.38 which will buy 8,619 tons at the contract bid price. The amount required for the 22 foot overlay portion is 746 tons per mile. The 8,619 tons will then overlay 2.98 miles based on the above figures, or 4.32 miles if the patching is entirely eliminated, which I do not recommend.

Another alternative would be to approach the contractor regarding a price reduction for an increased amount of AC. In order to stay within the 5% overrun we would have to get the price down to $80,587.38/10,618 = $7.58 per ton, which I would not expect to be able to accomplish, particularly in view of the fact that a class C mix would have to be used throughout in order to obtain satisfactory results with the thin lift.

In view of the above, together with the uncertainty which is inherent in this (equipment rental) type of project, I recommend that the overlayment be foregone at this time in favor of doing a better job as planned, with a sufficient amount of A/C patching, and to hope for a chance to overlay with a minimum 1½ inch lift in the future.

H. H. Patterson

H. H. Patterson
Resident Engineer

cc John Walker 3-13-69
He will follow up and
give further consideration to
a possible overlay but unless
word is received from him
present plan will be followed.

cc: J. Walker
H. H. Patterson
sent 3-14-69

20-1145 C

RECEIVED
APR 22 1969
FORM 2-30 (12-67)
FOR FILING

20-1145

7192

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
April 17, 1969

SUBJECT: Excavation Depths
Lincoln County Line-Squaw Creek Section
Oregon Coast Highway
Contract No. 7192

To: F. D. Morgan
CONSTRUCTION ENGINEER

You will recall that Fred Klaboe previously asked this office to review the shoulder excavation on the subject project and make certain that good materials were not necessarily being removed. (See my report of March 31, 1969.) The full depth, 11" excavations, have now been completed. A tabulation of these as well as the shallower 5" and 3" depth excavations are attached. You will note that the full depth involved about 1/2 of the project and as previously noted I believe all of the excavations made were justifiable.

R. D. Asburry
DIVISION ENGINEER

By

Gerald Wimer
ASST. DIVISION ENGINEER

RECEIVED
APR 21 1969
OFFICE OF
STATE HIGHWAY ENGINEER

GW:lf
Attach.

cc: H. H. Patterson

Routing
1 Morgen M
4 Docker
2 Bond
3 Walker
Boehme
Johnsen

RECEIVED
APR 18 1969
CONSTRUCTION
DIVISION

Peat E
5 [illegible]
Glenn
Litchfield
Gallagher
Stein

NOTED
F. B. KLA

Form E-49—3031

OREGON STATE HIGHWAY
DEPARTMENT

TABULATION SHEET
SHEET 1 OF 2 SHEETS

SQUAW CR.
EXCAVATION DEPTHS

WEST SIDE — EAST SIDE

11"	5"	3"	STA -	STA	3"	5"	11"	
		500'	1059 BEG	1059		500'		BEGINNING OF PROJ. (S. END)
		200	1059	1061	200			
		500	1061	1066		500		
		400	1066	1070			400	
	1,100		1070	1081			1,100	
600			1081	1087			600	
	600		1087	1093	-		600	
		800	1093	1101			800	
	300		1101	1104			300	
		200	1104	1106			200	
	1,300		1106	1119			1,300	
			(TENMILE CRK)					
		700	1121	1128	700			
		800	1128	1136			800	
		1,000	1136	1146		1,000		
		300	1146	1149	300			
		1,500	1149	1164			1,500	
	200		1164	1166			200	
		1,200	1166	1178			1,200	
		700	1178	1185		700		
	200		1185	1187		200		
	700		1187	1194			700	
	200		1194	1196	200			
	200		1196	1198			200	
			(BOB CRK)					
900			1199	1208			900	
	2,100		1208	1229			2,100	
2,800			1229	1257			2,800	
(4,300)	(6,900)	(8800)	(SUBTOTALS)		(1,400)	(2,900)	(15,700)	

Form E-40-30M-

TABULATION SHEET

SHEET 2 OF 2 SHEETS

OREGON STATE HIGHWAY
DEPARTMENT

SQUAW CRK

West Side					East Side			
11	5	3	STA	STA	3	5	11	
		600'	1257	1263			600' (OR MAYBE NONE)	(32' PAVT NOW)
		NONE	1263	1277	1,400			
200			1277	1279	200			
			(CUMMINGS CRK)					
400			1281	1285		400		
700			1285	1292			700	
300			1292	1295		300		
		NONE	1295	1298	(SOME)	300		
		200	1298	1300		200		
		1,900	1300	1319 (EQ)			1,900	(N. END OF PROJECT)
		200	2 (EQ)	4			200	
1,600	0	2,900	PAGE 2	SUBTOTALS	1,600	1,200	3,400	
4,300	6,900	8,800	✓ 1	✓	1,400	2,900	15,700	
5,900	6,900	11,700 (W. 24,500)	TOTALS		3,000	4,100	19,100	(E. TOTAL 26,200)
24 %	23 %	48 %	% - EACH SIDE		11 %	16 %	73 %	

(BOTH SIDES) TOTALS - 3" - 14,700 = 29 %
5" - 11,000 = 22 %
11" - 25,000 = 49 %
50,700'

RECEIVED
FEB 7 - 1969
FOR FILES

20-1145

7192

February 7, 1969

2707

Mr. R. O. Koski
Chief of Liberations
Oregon State Game Commission
Post Office Box 3503
Portland, Oregon 97208

Dear Mr. Koski:

Re: Tenmile Creek Pit, Lincoln County Line-
Squaw Creek, Oregon Coast Highway
Contract No. 7192

We appreciate receiving a copy of your permit allowing J. C. Compton, our contractor on this project, to take materials from Tenmile Creek.

A meeting will be set up to review terms of the permit with James Hutchison. Our representative will be H. H. Patterson, Resident Engineer, Post Office Box 37, Newport, telephone 265-7391. The contractor will be expected to attend.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

F. B. Klaboe
Assistant State Highway Engineer

cc: Forrest Cooper
R. L. Porter
Victor D. Wolfe - FBK 2707
F. D. Morgan
R. D. Asburry
H. H. Patterson

GW:lf srb

8351

1859

GAME COMMISSION

OFFICE OF THE DIRECTOR

P. O. BOX 3503 • 1634 S.W. ALDER ST. • PORTLAND, OREGON • 97208 • Ph. 222-9611

TOM McCALL
GOVERNOR

COMMISSIONERS
J. PAT METKE, Chairman
JOSEPH W. SMITH, Vice Chairman
JOHN P. AMACHER, Member
GEORGE L. HIBBARD, Member
JAMES W. WHITTAKER, Member

P. W. SCHNEIDER
State Game Director

REFERRED TO
Klaboe
BY DEPUTY STATE [illegible]

January 23, 1969

Routing
Morgan
Decker
Bond
Walker
Boehme
Johnsen
Pea[illegible]
Swan
Glenn
Litchfield
Gallagher
Stein

RECEIVED
JAN 30 1969
CONSTRUCTION DIVISION

State Highway Engineer
Oregon State Highway Department
Salem, Oregon 97310

Dear Sir:

Enclosed please find a copy of our recommendations for fish protection relative to the issuance of a gravel removal permit to J. C. Compton Company of McMinnville. These recommendations have been submitted under ordinary procedures to the State Land Board.

The reason for this additional notice being provided to your office is relative to difficulties in proper monitoring of construction practices where restoration of channel banks was not completed, although covered in agreement and contract. Tenmile Creek is a valuable fishery stream and prior improper practices in gravel removal have caused considerable damage.

Your cooperation in any degree in assisting us in monitoring this project in order to minimize damage to the stream would be most appreciated.

Although this procedure is unusual, we feel that past experience in this area warrants special precautions. If assistance or advice in the immediate area is needed, please contact Mr. James Hutchison, P.O. Box 1201, Florence, phone 997-3105.

Very truly yours,

P. W. SCHNEIDER
DIRECTOR
By R. O. Koski
R. O. Koski
Chief of Liberations

enc.

cc: N. W. Reg.
J. Hutchison
R. Angstrom

RECEIVED
JAN 27 1969
OFFICE OF
STATE HIGHWAY ENGINEER

[illegible]

ORS 541.605 et seq

Name of Applicant J. C. Compton Company

(Please check your recommendations relative to the enclosed application.)

(X) 1. The operation shall be conducted in such a manner that it will not cause turbidities in the waters of the Tenmile Creek to exceed five (5) Jackson Turbidity Units above natural background unless specifically authorized by the Sanitary Authority.

( ) 2. The operation shall be conducted in such a manner that it will not cause the formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry.

(X) 3. The operation shall be conducted in such a manner that the Standards of Quality for Public Waters of Oregon to be found in Oregon Administrative Rules, Chapter 334, Sections 11-005 to 11-075, are not violated.

(X) 4. This permit does not authorize the return of waste waters from any operation employed to wash or process materials removed under this permit.

(X) 5. The operation shall be conducted from behind a watertight berm which separates the area of removal from the flowing stream.

(X) 6. No equipment shall be operated in the active flowing stream except to construct and maintain berm.

(X) 7. No gravel shall be removed from permit area ~~between the period of~~ prior to April 1, 1969.
~~except from behind previously constructed berm~~

( ) 8. The river will not be diverted from its present channel.

( ) 9. Dikes shall be constructed in a fashion so as to prevent abnormal washing of stream banks.

(X) 10. Following the removal of material, the stream in the removal area shall be returned (1) __ to a single channel, or (2) X to its original channel.

( ) 11. All potholes will be leveled or connected to the river upon completion of a season's work or when fish become trapped.

( ) 12. No dike construction, channel change or operation of equipment shall be done in the active flowing stream from ____________________.

( ) 13. The State reserves the right to review the terms of this permit after ______ years.

(XX) 14. After returning stream to original channel, the banks be diked sufficiently to prevent normal high flows spreading out over the areas from which gravel was removed.

Others: Attach separate sheet.

Return before 1-28-69.

To: Division of State Lands
20 Agriculture Building
Salem, Oregon 97310

Fish Commission of Oregon concurs.

State Game Commission
Agency

January 23, 1969

WOS:ae
cc: OFC

6/

Please submit in duplicate.

Removal Permit Application

Name of Applicant J. C. [illegible] Company
Corporate name or Individual (please print)

P. O. Box 36 McMinnville, Oregon 97128 472-4155
Address Zip Telephone No.

Pres.
Signature of Applicant (Title)

Description of Operation

a) Materials to be removed Gravel

b) Estimated quantity (cubic yards) 10,000

c) Method of removal Dragline

d) Purpose of removal Use in highway construction

e) Disposition of materials On OSHD Contract Lincoln County, Line- [illegible] creek.

f) Proposed period of removal March 1969

g) Precautions to prevent damage to stream We will relocate stream channel while working gravel bar.

10[illegible]

25^{00}

Location

a) Name of stream Ten Mile Creek

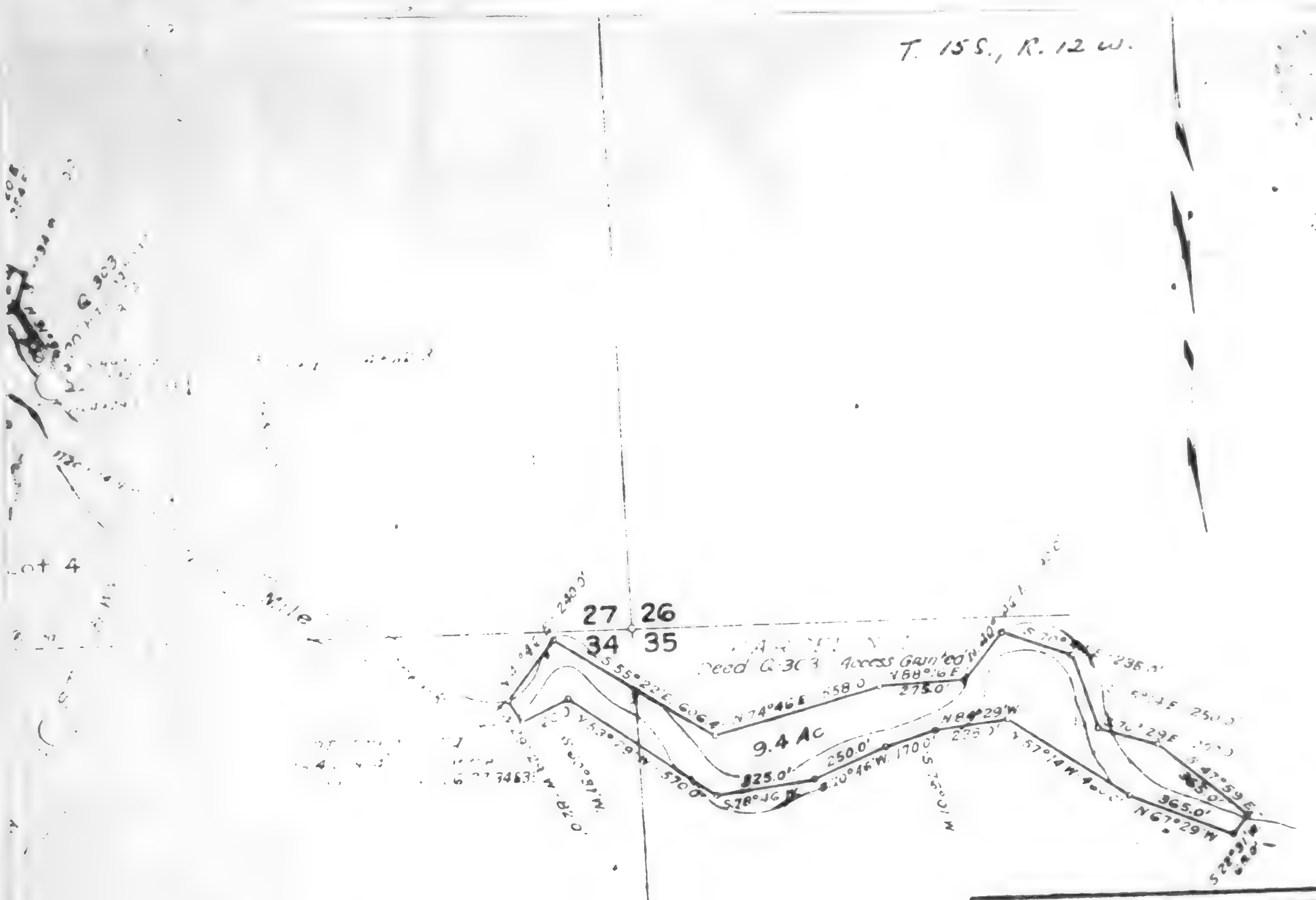
b) Tributary of

c) Located in Section 34 & 35 Township 15S Range 12W

d) Legal Description of property

e) Map (attach County Assessor's plat or equivalent showing location of proposed operation)

Mail to: State Land Board, Salem, Oregon 97310


T. 15 S., R. 12 W.
Lot 4
27
26
34
35
9.4 Ac
Deed G-303 Access Granted
G-303
S 55°22'E 606.4'
N 74°46'E 558.0'
N 68°16'E 275.0'
240.0'
235.0'
250.0'
N 84°29'W
235.0'
S 57°14'W
N 67°29'W
365.0'
S 47°59'E
S 70°29'E
S 78°46'W
S 10°46'W 170.0'
825.0'
570.0'
N 53°29'W
828.0'

OREGON·STATE HIGHWAY DEPAR

Acquired from	George Stonefie
For	GRAVEL BAR, STOCK and HAULING ROAL
Highway	Oregon Coast

C

RECEIVED
JAN 20 1969

FOR FILING
20-1145

7192

January 20, 1969

J. C. Compton Company
P. O. Box 86
McMinnville, Oregon 97128

Gentlemen:

Enclosed are three copies of Contract No. 7192 for $172,377 awarded to you by the State Highway Commission on January 14, 1969. This contract is for grading and paving on the Lincoln County Line-Squaw Creek Section of the Oregon Coast Highway in Lane County.

Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The calendar workday count on this contract will begin January 31, 1969.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Enclosures
bc: Frank Morgan
D. J. Barbee
I. D. Merchant
C. D. Matthis (SIAC)
R. D. Asburry
H. H. Patterson

S-23-105(1) Malheur R. (Harper) and 1969
Bully Cr. (Westfall) Bridges on
#7194 FAS 23-105 (2 struct.)

©CIA 3651

☑ ENGR. ☑ COOR. ☑ OE ☑ AE ☑ UE
☑ UPE ☑ CE ☑ RE ☑ RPE ☐

October 7, 1970

Malheur County Court
Courthouse
Vale, Oregon 97918

Contract 7194
S-23-105(1)

Att: Hon. Ellis White
Judge

Re: Malheur River (Harper)
and Bully Creek (Westfall) Bridges
FAS 23-105
Malheur County

Gentlemen:

Final costs, as shown in the enclosed cost statement, are now available on the Malheur River (Harper) and Bully Creek (Westfall) Bridges.

In accordance with our agreement dated April 23, 1968, the amount of $13,486.33 is yet due the State. This amount of $13,486.33, per the letter of understanding dated January 9, 1969, is to be transferred from Malheur County federal funds to state highway funds.

Very truly yours,

H. S. Cox
County and City Engineer

By: HR
Harold Reynoldson
Rural Program Engineer

HR:ljt
Att.

CC-1233

OREGON STATE HIGHWAY DEPARTMENT

ITEMIZED STATEMENT OF FINAL COSTS **DATE:** October 7, 1970

County MALHEUR **Contract No.** 7194 **Date Completed** 8/19/70

FAS 23-105 **Section** Malheur River (Harper)&Bully Creek(Westfall)Bridges

PAYMENTS TO CONTRACTOR

Item		Total Cost
Payment to Contractor	(Fed. part.)	145,292.22
Purchase pre-stress beams	"	7,068.53
Engineering including seminar	"	16,042.49
Less cut off piling	"	-4,620.00
TOTAL	(Fed. part.)	163,783.24
Rock slope protection	(Non. part.)	1,118.44
Haul piling	"	339.06
TOTAL	(Non part.)	1,457.50
Engineering (State to participate 50%)		342.30
Total Cost of Project		165,583.04
Funds Collected from Federal Government		104,067.87

County's share of costs per agreement:

$$\tfrac{1}{2}(163{,}783.24 - 104{,}067.87 + 342.30) + 1{,}457.50 =$$
$$30{,}028.83 + 1{,}457.50 = 31{,}486.33$$

County share of costs	$31,486.33
County advance deposit	18,000.00
Amount due State	$13,486.33

This amount of $13,486.33 yet due State is to be made up by transferring this amount from Malheur County Federal funds to state highway funds. See advance deposit letter dated January 9, 1969.

Reference: Billing Form cc 1158

RECEIVED
FEB 4 - 1970

FOR FILING
5-23-105(1)
1'94

February 4, 1970

Flynn Sand & Gravel Co.
2875 Goodell Lane
Ontario, Oregon 97914

Gentlemen:

This is in reply to your letter of February 2 concerning the status of your claim on the Harper Bridge job.

Our records indicate that your claim for materials in the amount of $7,287.50 against Stach Construction Co., Inc., was filed with the Secretary of State on December 17, 1969, and was assigned his File No. 4441.

We have not heard from the contractor or the surety concerning your claim. We will, however, forward a copy of your letter to the surety and the contractor for their information.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:cr

cc: St. Paul Fire & Marine Insurance Company
Oakridge Insurance Agency, Inc.
Stach Construction Co., Inc.

FLYNN SAND & GRAVEL CO.

Excavating and Dredging

2875 GOODELL LANE PHONE 889-8797
ONTARIO, OREGON 97914

Oregon State Highway Comm.
Mr Floyed Query

Ontario, Ore
Feb. 2-1970

Dear Sir:

I Was Wondering on what has been done on the settlement of Payments Due on the Harper Bridge Job? I turned in a Claim for Concrete furnished. Would appreciate it very much if you would let me know.

Flynn Sand & Gravel
W. K. Flynn

Cc ✓

NOTED
C. W. HEAD

RECEIVED
FEB 03 1970
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
FEB 2 - 1970
FOR FILING

445c-

FILED
JAN 29 1970
CLAY MYERS
SECRETARY OF STATE

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

S-23-165(1)

1194

January 28, 1970

Northwest Gas & Oil
318 N. Oregon Street
Ontario, Oregon 97914

Attention: Gil Holderman

Gentlemen:

This is to acknowledge receipt of your claim letter of January 27 advising us that Stach Construction Company owes Northwest Gas & Oil $279.23 and the Superior Products $501.97. You mentioned that they made purchases of deisel and gasoline at your station at Hines, and purchases of gasoline at Ontario which you assumed were made in connection with the overpass at Lime in Baker County.

Your claim appears to be in reference to the following contracts:

> Contract No. 7194, Stach Construction Company, Inc., prime contractors, for structures of the Malheur River (Harper) and Bully Cr. (Westfall) Bridges on FAS 23-105 in Malheur County. Surety: St. Paul Fire & Marine Insurance Company. Agent: Oakridge Insurance Agency, Inc.

NOTED ON CARD
1-30-70 cR

> Contract No. 7185, Roy L. Houck Sons' Corp., prime contractors, for grading, paving, structures and signing on the Lime Section of the Old Oregon Trail in Baker County. Surety: The Aetna Casualty & Surety Company. Agent: Updegraff Insurance, Inc.

NOTED ON CARD
1-30-70 cR

We will advise the sureties and the agents of the receipt of your claim letters of January 27, 1970, and November 7, 1969. We are also forwarding them to the Secretary of State for filing. This filing with the Secretary of State will protect your claim under the bond.

Please advise this office when your claim has been paid so that we may clear our records.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc St. Paul Fire & Marine Ins. Co.
Oakridge Insurance Agency, Inc.
Stach Construction Company, Inc.
The Aetna Casualty & Surety Company
Updegraff Insurance, Inc.
Roy L. Houck Sons' Corporation

bc Commission
Secretary of State

NOTED
C. W. HEAD

RECEIVED
JAN [illegible] 1970
OREGON
STATE HIGHWAY COMMISSION

NORTHWEST GAS & OIL
SUPERIOR PRODUCTS
318 N. OREGON STREET
ONTARIO, OREGON 97914

Jan 27,1970

Mr Floyd Query
Oregon State Highway Commission
Salem,Oregon.

RE: Stach Construction Co.

Dear Sir:

I am writing in pursuant to your letter of Nov.12,1969 concerning Stach Construction Co. The reason I am late in reply,is the fact that a $500 payment was recieved from Stach on November 22,1969 which I applied to Northwest Gas and Oil account, leaving a balance of $279.23.The is still an unpaid balance of $501,97 owing Superior Products, a credit card department of Northwest Gas and Oil.

To advise you as to which contract these bills were incurred, I am at a loss to know,There were purchases of deisel and gasoline made at Pats Superior Station at Hines,Oregonand purchases of gasoline at Ontario,I assume that the bulk of the purchases were made on the overpass located at Lime Oregon in Baker County.according to the dates on the statements.

Will you please advise me what proceedures I should take from here, as I am sure that you would know the best way to go.I am enclosing statements as to the amount owing both operations.

Very truly yours,

Gil Holderman

Gil Holderman.

318 NORTH OREGON ST. **SUPERIOR PRODUCTS** ONTARIO, OREGON 97914

DATE ,19

BALANCE FORWARD		
CHARGE INVOICE ENCLOSED		
LATE CHARGE		
PAY LAST AMOUNT SHOWN		
FINAL DEMAND		

ALL ACCOUNTS DUE AND PAYABLE UPON RECEIPT OF STATEMENT. 50 CENTS PER MONTH WILL BE ADDED FOR LATE PAYMENTS.

Pay Direct To: SUPERIOR PRODUCTS, 318 No. Oregon St., Ontario, Oregon 97914

THESE INVOICES (WILL NOT)BE BILLED ON YOUR OIL CO. STATEMENT

STATEMENT

NORTHWEST GAS AND OIL, INC.

318 No. OREGON ST. 889-6314
ONTARIO, OREGON 97914

Independent Distributors of Petroleum Products

IN ACCOUNT WITH

Stach Construction Company
Box 730
Grants Pass, Oregon

DATE	REFERENCE	CHARGES	CREDITS	BALANCE
BALANCE FORWARDED				279.23

TERMS: NET CASH. PAST DUE ACCOUNTS SUBJECT TO 18% PER YEAR INTEREST CHARGES
ACCOUNTS DUE AND PAYABLE 10TH OF THE FOLLOWING MONTH.

Northwest Gas & Oil, Inc. Ontario, Oregon

7-4542-H1

NORTHWEST GAS & OIL

318 N. OREGON STREET PHONE 768-R

ONTARIO, OREGON 97914

November 7, 1969.

Mr. Floyd Query
State Highway Dept Building
Salem, Oregon 77923

Dear Sir:

Pursuant to the telephone conversation with you on 11/5/69 regarding Stach Construction Co. of Grants Pass on non payment of their account, I am enclosing a copy of our ledger sheet. These purchases were incurred at our station in Ontario.

We have also another account listed as Superior Products, operated by Northwest Gas & Oil which accepts credit cards. The prime factor is Pat's Superior Station at Hines, Oregon from which Stack Construction Co. purchased diesel and gasoline.

We have sent monthly statements to Stach Construction Co., but with no results. The last receipt on the credit card account was $611.98 of a $717.62 balance on June 18th. Their present balance is $498.47 for the credit cards plus $779.23 for the Northwest Gas & Oil account, making a grand total of $1,277.70.

I am not sending you a copy of Superior Products accounts because it involves several copies, but if you care to have them I will send them forthwith.

Very truly yours

by

Northwest Gas & Oil, Inc.

TIRES HOOD TUBES

If it's Hood it's Good

STACK C TRUCTION COMPANY
Box 730
Grants Pass, Oreg.

less 4.5 per gal on gas

MAR 11'69	6,310	8.52+		8.52
MAR 12'69	6,321	22.65+		
MAR 12'69	6,345	11.13+		42.30
MAR 13'69	6,352	25.55+		67.85
MAR 19'69	6,535	10.17+	7.52	—78.02
MAR 27'69	6,816	24.20+		
MAR 27'69	6,801	21.91+		124.13
APR 2'69	7,011	12.92+		
APR 2'69	7,039	3.80+		140.85
APR 3'69	7,077	15.68+		156.53
APR 4'69	7,084	12.70+		169.23
APR 10'69	7,281	3.80+		173.03
APR 11'69	7,301	9.00+		182.03
APR 17'69	7,463	17.25+		
APR 17'69	7,485	4.84+		
APR 17'69	7,491	6.60+		210.72
APR 18'69	7,524	3.35+		214.07
APR 21'69	7,591	16.61+		
APR 21'69	7,592	30.80+		
APR 21'69	7,596	17.88+		279.36
APR 22'69	7,621	5.35+		284.71
APR 24'69	7,645	7.25+		291.96
APR 25'69	9,345		70.50- 7.52-	213.94
APR 25DS				
APR 25'69	7,713	18.26+	17.25—	232.20
APR 29'69	7,857	9.93+		
APR 29'69	7,833	4.90+		247.03
APR 30'69	7,885	6.95+		253.98
MAY 2'69	7,917	5.80+		259.78
MAY 5'69	8.007	14.10+		273.88
MAY 6'69	8.032	6.44+		280.32
MAY 7'69	8.062	27.07+		307.39
MAY 9'69	8,140	24.25+		331.64
MAY 9'69	8,160	3.30+		334.94
MAY 13'69	8.288	12.40+		347.34
MAY 21'69	8,569	5.40+		
MAY 21'69	8,571	1.50+	11.44	354.24
MAY 27'69	8.746	10.20+		364.44
MAY 29'69	8,784	16.60+		
MAY 29'69	8.810	7.40+		388.44
JUN 2'69	8.966	5.40+		393.84
JUN 3'69	8.979	29.88+		
JUN 3'69	8.970	39.36+		463.08
JUN 11'69	9,221	11.00+		474.08
JUN 12'69	9,267	5.80+		479.88
JUN 13'69	9,301	5.00+		484.88
JUN 16'69	9,422	3.00+		
JUN 16'69	9,423	54.00+		541.88
JUN 18'69	9,519	13.33+		
JUN 18'69	9,484	4.85+		560.06
JUN 19'69	9,538	9.85+		569.91
JUN 20'69	10,063		1.85-6/711	568.06

Fuel

STACK CO[illegible]RUCTION CO[illegible]NY B 568.0 .04

Box 730
Brants Pass, Oregon

JUN 24'69	9,704	16.20+		
JUN 24'69	9,688	1.80+	1349	586.06●
JUN 27'69	9,786	6.40+		592.46●
JUL 1'69	9,900	12.50+		604.96●
JUL 2'69	9,934	8.78+		613.74●
JUL 9'69	10,140	4.65+		618.39●
JUL 11'69	10,220	5.98+		624.37●
JUL 14'69	10,325	28.20+		652.57●
JUL 17'69	10,410	5.30+		657.87●
JUL 19'69	10,476	19.61+	9.60	677.48●
JUL 31'69	10,800	14.10+		
JUL 31'69	10,797	25.83+		
JUL 31'69	10,771	8.40+		725.81●
JUL 31'69	21,498	7.15+		732.96●
AUG 1'69	21,506	3.55+		736.51●
AUG 14'69	21,551	23.70+	6.24	760.21●
SEP 25'69	11,6[illegible]	7.90+		768.11●
SEP 25'69	11,7[illegible]	4.30+		772.41●
OCT 17'69	12,371	6.82+		779.23●

RECEIVED
JAN 8 - 1970
FOR FILING

5-23-105(1)

7194

January 8, 1970

Oregon State Highway Commission

Gentlemen:

Work was completed August 19, 1969, on Contract No. 7194. The contract was with Stach Construction Company, Inc., and was for structures on the Malheur River (Harper) and Bully Creek (Westfall) Bridges Section of the FAS-23-105 Highway in Malheur County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective January 8, 1970, and that you concur in this procedure at the Commission meeting on February 3.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

R. L. Porter
Deputy State Highway Engineer

cc: Floyd Query
Tom Edwards
F. B. Klaboe
V. D. Wolfe
V. E. Skoog
Ivan Merchant
F. D. Morgan
L. H. Young
H. S. Coulter

srb sr

RECEIVED
JAN 9 1970

FOR FILING

5-23-105(5)

7194

January 8, 1970

St. Paul Fire & Marine Ins. Co.
Portland Office
1500 N.E. Irving Street
Portland, Oregon 97232

Gentlemen:

Contract No. 7194 awarded to Stach Construction Company, Inc., for structures of the Malheur River (Harper) and Bully Cr. (Westfall) Bridges on FAS 23-105 in Malheur County was completed on August 19, 1969, and accepted by the Highway Commission on January 8, 1970.

Final payment in the amount of $7,389.44 will be released to the contractor after January 15, 1970. The total contract amount is $146,410.66 including $1,118.44 for work performed under force account.

You have been advised previously that claims have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

aj

cc Stach Construction Co., Inc.
P. O. Box 730
Grants Pass, Oregon 97526

Oakridge Insurance Agency, Inc.
P. O. Box 406
Oakridge, Oregon 97463

bc Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Herr
H. S. Coulter

RECEIVED
DEC 19 1969
FOR FILING

5441

FILED
DEC 1 1969
CLAY MYERS
SECRETARY OF STATE

**OREGON STATE
HIGHWAY DEPARTMENT**

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

5-23-105(1)

7194

December 16, 1969

Flynn Sand & Gravel Co.
2875 Goodell Lane
Ontario, Oregon 97914

Attention: Mr. Walter Flynn

Gentlemen:

This is to acknowledge receipt of your claim letter of December 5 and attachments stating that Stach Construction Co., Inc., owes you for materials in the amount of $7,287.50.

You state this is in reference to the Stach Construction Co., Inc., Contract No. 7194 for construction of the Malheur River (Harper) and Bully Creek (Westfall) Bridges on FAS 23-105 in Malheur County.

The St. Paul Fire & Marine Insurance Company through Oakridge Insurance Agency, Inc., P. O. Box 406, Oakridge, furnished the performance bond on this contract which is given to assure completion of the contract and payment of all bills incurred in it. We will advise them of the receipt of your letter and we will also forward it to the Secretary of State for filing.

Please advise this office when your claim has been paid.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

NOTED ON CARD
12-18-69 CR

cc: St. Paul Fire & Marine Insurance Co.
Oakridge Insurance Agency, Inc.
Stach Construction Co., Inc.
Commission
Hon. Clay Myers - Please acknowledge receipt of this claim on the enclosed copy of this letter.

December 5, 1969

Oregon State Highway Department
c/o Mr. Floyd Query
State Highway Building
Salem, Oregon 97310

Re: Contract No. 7194

Dear Mr. Query:

We are the sub-contractors of Stach Construction Co. on the Bully Creek Bridge project in Malheur County, Oregon, Contract No. 7194. The prime contractor has not paid for materials delivered by us to that job and we understand that there are yet moneys payable to Stach Construction Co. under the contract. We are enclosing herewith an assignment of those funds and we request the payment be made directly to us.

In the event that it is not possible for us to obtain payment immediately of the amount due, would you please advise me as to any methods by which we can obtain payment of this claim in the least possible time.

Thank you for your courtesy and cooperation.

Very truly yours,

FLYNN SAND & GRAVEL CO.

Walter K. Flynn
Walter Flynn, Owner

Cc ✓

FLYNN SAND & GRAVEL CO.

Excavating and Dredging

2875 GOODELL LANE
ONTARIO, OREGON 97914
PHONE 889-8797

Malheur River Bridge, Bully Creek- Contract #7194

Invoice	Destination	Yards	Total
105	Westfall Bridge	4½	126.00
115	Harper Bridge	13	273.00
116	" "	4	84.00
117	" "	4	84.00
120	" "	2½	52.50
126	" "	6½	136.50
127	" "	6½	136.50
128	" "	6½	136.50
129	" "	7	147.00
130	" "	7	147000
131	" "	13	273.00
132	" "	5½	115.50
133	" "	5½	115.50
134	" "	14	294.00
135	" "	13	273.00
136	" "	7	147.00
136	" "	7	147.00
185	" "	7	147.00
186	" "	14½	304.50
240	" "	7	147.00
241	" "	7	147.00
242	" "	7	147.00
243	" "	13	273.00
244	" "	7	147.00
245	" "	7	147.00
246	" "	7	147.00
247	" "	7	147.00
248	" "	13	273.00
249	" "	7	147.00
250	" "	7	147.00
251	" "	7	147.00
252	" "	3	63.00
253	" "	6	126.00
254	" "	7	147.00
255	" "	7	147.00
256	" "	7	147.00
257	" "	13	273.00
258	" "	7	147.00

FLYNN SAND & GRAVEL CO.

Excavating and Dredging

2875 GOODELL LANE PHONE 889-8797
ONTARIO, OREGON 97914

Invoice	Destination	Yards	Total
259	Harper Bridge	7	147.00
260	" "	7	147.00
261	" "	13	273,00
262	" "	7	147.00
263	" "	7	147.00
264	" "	5	105.00
265	" "	5½	116.00
			$7287.50

341 yds @ 21.00----$7161.00
4½ yds @ 28.00---- 126.00
$7287.00

FLYNN SAND & GRAVEL CO.

BY Walter K Flynn OWNER

[illegible]
DEC 16 1969

FOR FILING

S-23-105(1)

7194

December 16, 1969

Portland Bolt & Manufacturing Co.
930 N.W. 14th Avenue
Portland, Oregon 97209

Attention: C. H. Llewellyn
Vice President

Gentlemen:

Thank you for your letter of December 11 advising us that the materials you furnished to Ward Steel Corporation (subcontractor) in the amount of $1,664.07 has been paid in full.

Our records indicate this to be in connection with Stach Construction Co., Inc., Contract No. 7194 for construction of the Malheur River (Harper) and Bully Creek (Westfall) Bridges on FAS 23-105 in Malheur County.

This information will be entered in our records, and we will advise the surety and the contractor of the receipt of your letter.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:cr
cc: St. Paul Fire & Marine Insurance Co.
Oakridge Insurance Agency, Inc.
Stach Construction Co., Inc.
Commission

NOTED ON CARD
12-16-69 CR

Portland Bolt & Manufacturing Co.

930 N. W. 14th Ave.
Portland, Oregon 97209
Phone: 227-5488

December 11, 1969

Oregon State Highway Department
Highway Building
Salem, Oregon 97310

Attention: Mr. Floyd Query
Secretary

Gentlemen:

This letter is to notify you that the claim we filed per letter dated November 4, 1969 for materials furnished to Ward Steel Corporation (subcontractor) in the amount of $1,664.07 in connection with State of Oregon Highway Department contract No 7194 has been paid in full.

Thank you for your cooperation.

Sincerely,

PORTLAND BOLT & MANUFACTURING CO

C.H. Llewellyn

By: C.H. Llewellyn
Vice President

NOTED
FLOYD QUERY

RECEIVED
[illegible]
STATE HIGHWAY COMMISSION

Cc

[illegible]
C. W. [illegible]

HOT DIP GALVANIZING • BOLTS • NUTS • WASHERS • BRIDGE • RODS • BUILDERS IRON WORK

Fas 23-105
Malheur Co

The County of Malheur

VALE, OREGON

December 10, 1969

NOTED
H. S. COX

Mr. Kurt Duval, Bridge Engineer
Oregon State Highway Department
Ontario, Oregon 97914

Dear Sir:

We, the County Court of Malheur County, Oregon, have inspected the Malheur River (Harper) and the Bully Creek (Westfall) Bridges, FAS 23 - 105; and, hereby recommend that the project be accepted.

NOTED
HAROLD
REYNOLDSON

DONE AND DATED THIS 10 DAY OF December, 1969.

MALHEUR COUNTY COURT

Ellis A. White
Ellis A. White - Malheur County Judge

E W Maag
Emil Maag - Malheur County Commissioner

Henry Esplin
Henry Esplin - Malheur County Commissioner

RECEIVED
DEC 26 1969
ENGINEER
COUNTY & CITY DIVISION

(Co+

RECEIVED
CURTIS H. DUVAL, Res. Bridge Engr.
DEC 11 1969
Routing ☐☐☐☐☐☐
Noted ☐☐☐☐☐☐

NOTED
P. B. Arensmeier

NOTED
R. H. PRANGE

Noted
Oscar H. Norberg

NOTED
RICHARD UNREIN

NOTED
[illegible] HOLMES

NOTED
DON HARWELL

RECEIVED
DEC 10 1969

Gen. Files

4439

FILED
DEC - 3 1969
CLAY MYERS
SECRETARY OF STATE

OREGON STATE
HIGHWAY DEPARTMENT

S-22-165(1)
11-14

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

December 2, 1969

Riddlesbarger, Pederson, Brownhill
& Young
Attorneys at Law
Cascade Building
1170 Pearl Street
Eugene, Oregon 97401

Attention: Mr. Phil Cass, Jr.

Gentlemen:

This is to acknowledge receipt of your letter of November 24 and attached Notice of Claim stating that Stach Construction Company, Inc., owes Morse Bros., Inc. for pre-stressed concrete material and hauling in the amount of $45,080.02. This appears to be in reference to the Stach Construction Company, Inc., Contract No. 7194 for construction of the Malheur River (Harper) and Bully Cr. (Westfall) Bridges on FAS 23-105 in Malheur County.

The St. Paul Fire & Marine Insurance Company through Oakridge Insurance Agency, Inc., P. O. Box 406, Oakridge, Oregon 97463, furnished the performance bond on this contract. We will advise them of the receipt of your client's claim and we will also forward it to the Secretary of State for filing.

Please advise this office when this claim has been satisfied.

Very truly yours,

NOTED ON CARD
CR 12-9-69

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

RECEIVED

cc St. Paul Fire & Marine Ins. Co.
Oakridge Insurance Agency, Inc.
Stach Construction Company, Inc.
bc Commission
Secretary of State - Please acknowledge receipt of this claim on the enclosed copy of this letter.

RIDDLESBARGER, PEDERSON, BROWNHILL & YOUNG
ATTORNEYS AT LAW
CASCADE BUILDING - 1170 PEARL STREET
EUGENE, OREGON 97401

W. P. RIDDLESBARGER
L. D. PEDERSON
THOMAS E. BROWNHILL
LEO F. YOUNG
PHIL CASS, JR.
MALCOLM H. SCOTT
ROBERT D. WOODS
EDWARD J. LEWIS

TELEPHONE 342-3691
AREA CODE 503

November 24, 1969

VIA CERTIFIED MAIL
No. 697570

Secretary - State Highway Commission
State of Oregon
Salem, Oregon 97310

Dear Sir:

Enclosed herewith please find for filing claim of Morse Bros., Inc. against Stach Construction Company and St. Paul Fire and Marine Insurance Company on the Malheur River Bully Creek Bridge.

Very truly yours,

Phil Cass, Jr.

PC/vw
Enclosure

cc: Secretary of State
Via Certified Mail
No. 697574

RECEIVED
[illegible]
STATE HIGHWAY COMMISSION

NOTICE OF CLAIM

Notice is hereby given that the undersigned Morse Bros., Inc. has a claim for pre-stressed concrete material and hauling in the sum of Forty-five Thousand Eighty & 02/100 Dollars ($45,080.02) against the bond taken from Stach Construction Company as principal and St. Paul Fire and Marine Insurance Company as surety for the work of Malheur River Bully Creek Bridge.

DATED Nov. 24, 1969

MORSE BROS., INC.

By F W Morse

CONTRACT NUMBER 7194

RECEIVED
NOV 26 1969
SALEM
STATE HIGHWAY COMMISSION

S-23-105(1)
7194

FORM E-1 (REV 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: Malheur River (Harper) and Bully Cr. (Westfall) Bridges
WEEK ENDING: November 15, 1969
SECTION PREFIX: 523-1017
HIGHWAY: FAS 23-105
COUNTY: Malheur
NAME OF JOB: Harper & Westfall Bridges
KIND OF WORK: Structures
CONTRACTOR: Stach Construction Co., Inc.
CONTRACT NUMBER: 7194
FEDERAL AID PROJECT NUMBER: S-23-105(1)
DATE OF CONTRACT: January 17, 1969
DATE WORK STARTED: March 5, 1969
ESTIMATED COMPLETION DATE:
AVERAGE FORCE ON PROJECT FOR THE WEEK: MEN 0 SUPERVISION: 0
SPECIFIED WORK DAYS:
SPECIFIED CALENDAR DAYS 200
SPECIFIED COMPLETION DATE:
WORK DAYS USED:
CALENDAR DAYS USED 200
PERCENT OF TIME ELAPSED 100.0
PROJECT AUTHORIZATION: $ 173,469.46
EXCLUSIVE OF ENGINEERING: $ 159,714.17
ENGINEERING AUTHORIZATION $ 13,755.29
PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST 100.0
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING $ 153,742.86
ENGINEERING COST TO DATE $ 14,487.26
PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION 96.4
DATE PROJECT WAS COMPLETED: August 19, 1969
ESTIMATED PERCENT ~~OVERRUN~~ UNDERRUN 3.7 %
PERCENT OF AUTHORIZATION 105.3 %

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD.		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)					
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE					
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.	15482A		15526A					
PERCENT	100.0	Calendar	100.0					

		WEATHER	~~WORK~~ DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY	9	Fair	0		
MONDAY	10	Fair	0		
TUESDAY	11	Fair	0		
WEDNESDAY	12	Fair	0		
THURSDAY	13	Fair	0		
FRIDAY	14	Fair	0		
SATURDAY	15		0		

Routing
Morgan
Decker
Bond
Walker
Boehme
Johnsen
Pease
Swan
Glenn
Litchfield
Gallagher
Stein

RECEIVED
NOV 17 1969
CONSTRUCTION DIVISION

BEN GIFFORD

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY	9	No activity all week.
MONDAY	10	
TUESDAY	11	
WEDNESDAY	12	
THURSDAY	13	Mr. Pillsbury to project today.
FRIDAY	14	Mr. Frederickson to project today.
SATURDAY	15	

REMARKS

Status of Project: Bully Cr. (Westfall) Bridge: Complete.
Malheur River(Harper) Bridge: Complete except for installing expansion joint sealer.

Semi-final estimate for project should be submitted Monday (11/17/69)

SIGNED Norman Oliva LOCATION Ontario
Norman L. Oliva, Asst. Bridge Res. Engr.

T SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

RECEIVED
NOV 12 1969

FOR FILING

5-23-105 (1)
7194

November 12, 1969

Northwest Gas & Oil
318 N. Oregon Street
Ontario, Oregon 97914

Gentlemen:

This is to acknowledge receipt of your letter of November 7 advising us that Stach Construction Co., Inc., of Grants Pass owes you $1,277.70. We also acknowledge receipt of your ledger sheet showing dates of their purchases at your station in Ontario.

Our records reveal that the Stach Construction Co., Inc., has only one active contract which is in Malheur County - Contract No. 7194 for structures on the Malheur River (Harper) and Bully Creek (Westfall) Bridges on FAS 23-105. This contract was completed August 19, 1969, but has not yet been accepted by the Highway Commission.

Will you please advise us by letter if this is the contract which you want to file your claim against or if it pertains to some other contract. Upon receipt of this information, we will file your claim with the Secretary of State and notify the surety, agent and the principal contractor of the receipt of your claim.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:cr

NORTHWEST GAS & OIL
318 N. OREGON STREET PHONE 768-R
ONTARIO, OREGON 97914

November 7, 1969.

Mr. Floyd Query
State Highway Dept Building
Salem, Oregon 77923

Dear Sir:

Pursuant to the telephone conversation with you on 11/5/69 regarding Stach Construction Co. of Grants Pass on non payment of their account, I am enclosing a copy of our ledger sheet. These purchases were incurred at our station in Ontario.

We have also another account listed as Superior Products, operated by Northwest Gas & Oil which accepts credit cards. The prime factor is Pat's Superior Station at Hines, Oregon from which Stack Construction Co. purchased diesel and gasoline.

We have sent monthly statements to Stach Construction Co., but with no results. The last receipt on the credit card account was $611.98 of a $717.62 balance on June 18th. Their present balance is $498.47 for the credit cards plus $779.23 for the Northwest Gas & Oil account, making a grand total of $1,277.70.

I am not sending you a copy of Superior Products accounts because it involves several copies, but if you care to have them I will send them forthwith.

NOTED

Very truly yours

by

Northwest Gas & Oil, Inc.

TIRES HOOD TUBES
If it's Hood it's Good

STACK CONSTRUCTION COMPANY
Box 730
Grants Pass, Oregon

Less 4¢ per gal on gas

MAR 11'69	6,310	8.52+		8.52●
MAR 12'69	6,321	22.65+		
MAR 12'69	6,345	11.13+		42.30●
MAR 13'69	6,352	25.55+		67.85●
MAR 19'69	6,535	10.17+	7.52 —	78.02●
MAR 27'69	6,816	24.20+		
MAR 27'69	6,801	21.91+		124.13●
APR 2'69	7,011	12.92+		
APR 2'69	7,039	3.80+		140.85●
APR 3'69	7,077	15.68+		156.53●
APR 4'69	7,084	12.70+		169.23●
APR 10'69	7,281	3.80+		173.03●
APR 11'69	7,301	9.00+		182.03●
APR 17'69	7,463	17.25+		
APR 17'69	7,485	4.84+		
APR 17'69	7,491	6.60+		210.72●
APR 18'69	7,524	3.35+		214.07●
APR 21'69	7,591	16.61+		
APR 21'69	7,592	30.80+		
APR 21'69	7,596	17.88+		279.36●
APR 22'69	7,621	5.35+		284.71●
APR 24'69	7,645	7.25+		291.96●
APR 25'69	9,345		70.50-	
APR 25DS			7.52-	213.94●
APR 25'69	7,713	18.26+	11.25 —	232.20●
APR 29'69	7,857	9.93+		
APR 29'69	7,833	4.90+		247.03●
APR 30'69	7,885	6.95+		253.98●
MAY 2'69	7,917	5.80+		259.78●
MAY 5'69	8.007	14.10+		273.88●
MAY 6'69	8.032	6.44+		280.32●
MAY 7'69	8.062	27.07+		307.39●
MAY 9'69	8,140	24.25+		331.64●
MAY 9'69	8,160	3.30+		334.94●
MAY 13'69	8.288	12.40+		347.34●
MAY 21'69	8,569	5.40+		
MAY 21'69	8,571	1.50+	11.44	354.24●
MAY 27'69	8,746	10.20+		364.44●
MAY 29'69	8,784	16.60+		
MAY 29'69	8,810	7.40+		388.44●
JUN 2'69	8.966	5.40+		393.84●
JUN 3'69	8.979	29.88+		
JUN 3'69	8.970	39.36+		463.08●
JUN 11'69	9,221	11.00+		474.08●
JUN 12'69	9,267	5.80+		479.88●
JUN 13'69	9,301	5.00+		484.88●
JUN 16'69	9,422	3.00+		
JUN 16'69	9,423	54.00+		541.88●
JUN 18'69	9,519	13.33+		
JUN 18'69	9,484	4.85+		560.06●
JUN 19'69	9,538	9.85+		569.91●
JUN 20'69	10,063		1.85-6/711	568.06●

Fwd.

STACK CONSTRUCTION COMPANY B 568.06 .04

Box 730
Brants Pass, Oregon

JUN 24'69	9,704	16.20+		
JUN 24'69	9,688	1.80+	1349	586.06●
JUN 27'69	9,786	6.40+		592.46●
JUL 1'69	9,900	12.50+		604.96●
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JUL 9'69	10,140	4.65+		618.39●
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JUL 14'69	10,325	28.20+		652.57●
JUL 17'69	10,410	5.30+		657.87●
JUL 19'69	10,476	19.61+	9.60	677.48●
JUL 31'69	10,800	14.10+		
JUL 31'69	10,797	25.83+		
JUL 31'69	10,771	8.40+		725.81●
JUL 31'69	21,498	7.15+		732.96●
AUG 1'69	21,506	3.55+		736.51●
AUG 14'69	21,551	23.70+	6.28	760.21●
SEP 25'69	[illegible]	7.90+		768.11●
SEP 26'69	11,711	4.30+		772.41●
OCT 17'69	12,371	6.82+		779.23●

RECEIVED
NOV 2 969

c

4436

S-23-105(1)

1859

OREGON STATE
HIGHWAY DEPARTMENT

7194

FILED
NOV 10 1969
CLAY MYERS
SECRETARY OF STATE

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

November 7, 1969

Portland Bolt & Manufacturing Co.
930 N.W. 14th Avenue
Portland, Oregon 97209

Attention: Mr. C. H. Llewellyn
Vice President

Gentlemen:

This is to acknowledge receipt of your claim letter of November 4 stating that you have a claim for materials furnished to Ward Steel Corporation (subcontractor) in the amount of $1,664.07.

Your letter states this is in connection with the Stach Construction Co., Inc., Contract No. 7194 for structures on the Malheur River (Harper) and Bully Creek (Westfall) Bridges on FAS 23-105 in Malheur County.

The St. Paul Fire & Marine Insurance Company through Oakridge Insurance Agency, Inc., P. O. Box 406, Oakridge, furnished the performance bond on this contract. We will advise them of the receipt of this claim, and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By
C. W. Head, Assistant Secretary

CWH:cr

NOTED ON CARD
11-13-69 CR

cc: St. Paul Fire & Marine Insurance Company
Oakridge Insurance Agency, Inc.
Stach Construction Co., Inc.
Commission
Hon. Clay Myers - Please acknowledge receipt of this claim on the enclosed copy of this letter.

RECEIVED
NOV 12 1969
OREGON
STATE HIGHWAY COMMISSION

NOTED
C. W. HEAD

Portland Bolt & Manufacturing Co.

930 N. W. 14th Ave.
Portland, Oregon 97209

Phone: 227-5488

November 4, 1969

To: Oregon State Highway Commission
State Highway Bldg.
Salem, Oregon

Notice is hereby given That the undersigned, Portland Bolt & Manufacturing Co., has claim for materials furnished (galvanized bolts, nuts, washers & misc. steel fastening devices) by Portland Bolt & Manufacturing Co to Ward Steel Corp., a sub-contractor, in the sum of One Thousand six hundred sixty four dollars and seven cents ($ 1,664.07) against the bond taken from Stach Construction Co, Grants Pass, Oregon, as principal and St. Paul Fire & Marine Insurance Co, 1500 N.E. Irving, Portland, Oregon, as surety for the work of

Harper Westfall Bridges - Bully Creek Bridge 15526 A
Malheur River Bridge 15482 A
State of Oregon Contract No 7194

PORTLAND BOLT & MANUFACTURING CO

By: C.H. Llewellyn
Vice President
930 N.W. 14th Ave
Portland 97209

RECEIVED
[illegible] 1969
OREGON
STATE HIGHWAY COMMISSION

HOT DIP GALVANIZING • BOLTS • NUTS • WASHERS • BRIDGE • RODS • BUILDERS IRON WORK

RECEIVED
NOV 7 - 1969

4435

FILED
NOV 0 3 1969
CLAY MYERS
SECRETARY OF STATE

**OREGON STATE
HIGHWAY DEPARTMENT**

7194

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

October 31, 1969

Ward Steel Corporation
5816 S. W. Hood Avenue
Portland, Oregon 97201

Attention: Mr. Warren Ward
President

Gentlemen:

This is to acknowledge receipt of your claim letter of September 3, received in this office on October 31, 1969, stating that Stach Construction Company, Inc., owes you for structural steel in the amount of $7,921.17.

Your letter states this is in reference to the Stach Construction Co., Inc., Contract No. 7194 for the Malheur River (Harper) and Bully Creek (Westfall) Bridges on FAS 23-105 in Malheur County.

The St. Paul Fire and Marine Insurance Company through Oakridge Insurance Agency, Inc., P. O. Box 406, Oakridge, furnished the performance bond on this contract. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please advise this office when your claim has been satisfied.

NOTED ON CARD
11-4-69 CR

Very truly yours,

ORIGINAL SIGNED
FLOYD QUERY

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc St. Paul Fire & Marine Ins. Co.
Oakridge Insurance Agency, Inc.
Stach Constr. Co., Inc.

Hon. Clay Myers - Please acknowledge receipt of the enclosed claim on the attached letter.

RECEIVED
NOV 4 1969
OREGON
STATE HIGHWAY COMMISSION

NOTED
C W HEAD

WARD STEEL CORP.
5816 SW HOOD AVE. 246-8411
PORTLAND, OREGON 97201

September 3, 1969

TO: Mr. Floyd Query, Secretary
Oregon State Highway Commission
Highway Building
Salem, Oregon 97310

RE: Malheur County
Malheur River (Harper) Bridge
Bully Creek (Westfall) Bridge
O. S. H. D. Contract No. 7194

Notice is hereby given that the undersigned, WARD STEEL CORPORATION, has a claim for materials consisting of structural steel furnished by WARD STEEL CORPORATION to STACH CONSTRUCTION COMPANY, INC., in the sum of Seven Thousand Nine Hundred Twenty One and seventeen one-hundreths ($7,921.17) Dollars against the bond taken from STACH CONSTRUCTION COMPANY, INC., as principal, and ST. PAUL FIRE AND MARINE INSURANCE COMPANY, as surety, for the work of STACH CONSTRUCTION COMPANY, INC., under OSHD Contract No. 7194, in the construction of MALHEUR RIVER (HARPER) BRIDGE and BULLY CREEK (WESTFALL) BRIDGE.

WARD STEEL CORPORATION

By: Warren Ward
President

5816 S. W. Hood Avenue
Portland, Oregon 97201

RECEIVED
OCT 31 1969
OREGON
STATE HIGHWAY COMMISSION

NOTED
H. S. COX

July 7, 1969

Hon. Ellis A. White
Malheur County Judge
P.O. Box 130
Vale, Oregon 97918

Malheur River (Harper) and Bully Creek
(Westfall) Bridges Section
FAS 23-105

Dear Judge White:

This is in reply to your June 26 letter to Mr. Si Cox concerning the payment for the balance of the County's 20% share for subject project.

Enclosed for your reference is a copy of the letter you signed — 11/5/69 to transfer the balance of the County's share ($16,700) of the advance deposit on this project from your Federal funds to State Highway funds.

Now, if it is your desire to reimburse the Highway Department this amount, this is fine with me. We can do this with the final billing upon completion of the project.

Very truly yours,

H. S. Cox
County and City Engineer

By

NOTED
HAROLD
REYNOLDSON

HR

Harold Reynoldson
Planning Engineer

HR:eb

Enc.

NOTED
R. H. PRANGE

Noted
Oscar H. Norberg

NOTED
RICHARD UNREIN

NOTED
MAINOR C. HOLMES

NOTED
[illegible] HARWELL

S-23-105

The County of Malheur

VALE, OREGON

NOTED
H. S. COX

June 26, 1969

Mr. H. S. Cox
Oregon State Highway Department
Highway Building
Salem, Oregon 97310

Dear Si:

The arrangement for advancing $14,000 from F.A.S. Funds credited to Malheur County enabled bidding on the Westfall and Harper Bridges at one and the same time, and resulted in saving to Malheur County.

The question has been raised as to whether or not the $14,000 was to be paid after July 1 by Malheur County; or, was the $14,000 paid out of the F.A.S. Funds thereby reducing that account by $14,000.

Frankly, it was my understanding tha t Malheur County would repay the $14,000 from the Major Bridge account; which, in turn, would be replaced through credit to the County F.A.S. account.

I would appreciate communication from you as to which procedure should be followed. ← Hal

Sincerely yours,

MALHEUR COUNTY

Ellis A. White

Ellis A. White
Malheur County Judge

NOTED
HAROLD
REYNOLDSON

NOTED
HAROLD
REYNOLDSON

We will do this with the final billing. HR

RECEIVED
JUN 30 1969
ENGINEER
COUNTY & CITY DIVISION

Copy to Hill Young

NOTED
RICHARD UNREIN

NOTED
MAINOR C. HOLMES

NOTED
R. H. PRANGE

F[illegible]approved; Budget Bureau No. 41-R2089.1

MONTHLY TRANSACTION NO. 2-22	FORM PR-2 (REV. 3-66) U.S. DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS	STATE Oregon
PROJECT REPORT NO. 4	**FEDERAL-AID PROJECT AGREEMENT** (PPM 21-7) 2-6-69	COUNTY Malheur PROJECT NO. S-23-105(1)

The State, through its Highway Department, having complied, or hereby agreeing to comply, with the terms and conditions set forth in (1) Title 23, U.S. Code, Highways, (2) the Regulations issued pursuant thereto by the Secretary of Commerce and, (3) the policies and procedures promulgated by the Federal Highway Administrator relative to the above designated project, and the Bureau of Public Roads having authorized certain work to proceed as evidenced by the date entered opposite the specific item of work, Federal funds are obligated for the project not to exceed the amount shown herein, the balance of the estimated total cost being an obligation of the State. Such obligation of Federal funds extends only to project costs incurred by the State after the Bureau of Public Roads authorization to proceed with the project involving such costs.

PROJECT TERMINI

Malheur River (Harper) and Bully Creek (Westfall) Bridges on
FAS 23-105

PROJECT CLASSIFICATION OR CLASS OF WORK	EFFECTIVE DATE OF AUTHORIZATION	APPROXIMATE LENGTH (Miles)
HIGHWAY PLANNING		▨
PRELIMINARY ENGINEERING		
RIGHTS-OF-WAY		▨
CONSTRUCTION	12-9-68	0.070
OTHER (Specify)		

FUNDS Pro Rata 63.54

ESTIMATED TOTAL COST OF PROJECT	FEDERAL FUNDS
$ 168,120	$ 105,000.00

The State further stipulates that pursuant to said Title 23, Regulations, and policies and procedures, and as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth on the reverse hereof.

OREGON STATE HIGHWAY DEPARTMENT
(Official name of Highway Department)

By

Asst. State Highway Engineer
(Title)

By

(Title)

By

(Title)

U.S. DEPARTMENT OF COMMERCE

BUREAU OF PUBLIC ROADS

By
(Division Engineer)
R. E. Simpson

Date executed by Division Engineer 6 FEB 1969

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

USCOMM-DC 26854-P66

Oregon State Highway Department

Federal-Aid
Project No. S-23-105(1)

MALHEUR RIVER (HARPER) AND BULLY CREEK (WESTFALL) BRIDGES

ON F.A.S 23-105 IN MALHEUR COUNTY

Project agreement estimate.

Salem, Oregon, January 22, 1969

Type Code X081
Harper Bridge No. 15282A (Sta. 655+79 to Sta. 658+41)(Contract No. 7144)

Temporary Protection and Direction of Traffic	All Required (50%)		$ 750.00
Remove Old Bridges	All Required (75%)		3,000.00
Shoring, Cribbing, Etc.	All Required (80%)		1,600.00
Structural Excavation	160 cu.yd.	$ 6.00	960.00
Structural Excavation Below Elevation Shown	15 cu.yd.	1.00	15.00
Furnish 10 BP 42 Steel Piling	2,020 lin.ft.	4.80	9,696.00
Drive Steel Piles	40 only	90.00	3,600.00
Splice Piles	10 only	40.00	400.00
Class "A" Concrete (341 cu.yd.)	All Required		29,000.00
Hauling and Placing 60'/65' Type 3 Prestressed Beams	4 only	700.00	2,800.00
90'/95' Type 3 Prestressed Beams	12 only	2,500.00	30,000.00
Reinforcement (48,700 lbs.)	All Required		7,500.00
Structural Steel (600 lbs.)	All Required (4%)		180.00
Three Tube Steel Railing	484 lin.ft.	20.00	9,680.00
			$ 99,181.00
State-Furnished Prestressed Beams	All Required		7,068.53
			$106,249.53

Type Code X050
Westfall Bridge No. 15526 (Sta. 48+56 to Sta. 49+83.13)(Contract No. 7144)

Temporary Protection and Direction of Traffic	All Required (50%)		$ 750.00
Remove Old Bridge	All Required (25%)		1,000.00
Shoring, Cribbing, Etc.	All Required (20%)		400.00
Structural Excavation	40 cu.yd.	$ 6.00	240.00
Structural Excavation Below Elevation Shown	5 cu.yd.	1.00	5.00
Furnish 10 BP 42 Steel Piling	990 lin.ft.	4.80	4,752.00
Drive Steel Piles	18 only	90.00	1,620.00
Splice Steel Piles	5 only	40.00	200.00
3' x 40'/45' Prestressed Slab	6 only	1,100.00	6,600.00
4' x 40'/45' Prestressed Slab	18 only	1,250.00	22,500.00
Structural Steel (13,000 lbs.)	All Required (96%)		4,320.00
Metal Rail	280 lin.ft.	15.00	4,200.00
			$ 46,587.00

Subtotal	$152,836.53
10% Engr. & Cont.	15,283.47
Total	$168,120.00

Length of Structures - - - - - - 0.070 Mile

Federal Funds -	$105,000.00
State Funds -	31,560.00
County Funds- -	31,560.00
Total	$168,120.00

State Funds for Const.: Chap. 175, Laws 1917; Chap. 31, Laws 1920;
Chap. 529, Laws 1939.

State Funds for Maint.: Chap. 529, Laws 1939.

Special financing of
Co. St. funds

January 22, 1969

Malheur County Court
Courthouse
Vale, Oregon 97918

Attention Hon. Ellis A. White, County Judge

Malheur River (Harper) Bridge and
Bully Creek (Westfall) Bridge
FAS 23-105
Malheur County

Gentlemen:

This is to acknowledge receipt of the County's advance deposit in the amount of $18,000 for subject project.

Enclosed is a copy of Contract 7194 along with a copy of the construction plans. If additional copies are required, please notify and they will be forwarded promptly.

Very truly yours,

H. S. Cox
County and City Engineer

By

NOTED
HAROLD
REYNOLDSON

HR
Harold Reynoldson
Planning Engineer

HR:cb

Enc.

NOTED
R. H. PRANGE

NOTED
MARION C. HOLMES

NOTED
P. B. [illegible]

NOTED ✓
[illegible]

C

RECEIVED
JAN 22 1969
FOR FILING

5-23-105(1)

7194

January 21, 1969

Stach Construction Co., Inc.
P. O. Box 730
Grants Pass, Oregon 97526

Gentlemen:

Enclosed are three copies of Contract No. 7194 for $145,768 awarded to you by the State Highway Commission on January 17, 1969. This contract is for construction of the Malheur River (Harper) and Bully Creek (Westfall) Bridges on FAS 23-105 in Malheur County.

Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The calendar workday count on this contract will begin March 1, 1969, as outlined in Article 8-7, Paragraphs 4 and 5, under General Special Provisions and superseding Paragraph 8-7 under Section 8 of the Special Provisions.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Enclosures
bc: Frank Morgan
D. J. Barbee
I. D. Merchant
C. D. Matthis (SIAC)
A. F. Parson
Norman Olivia

JAN 6 - 1969

S-23-105(1)
7194

January 2, 1969

MISC. CONTRACTS and
AGREEMENTS No. [illegible]5

Malheur County Court
Courthouse
Vale, Oregon 97918

Attention: Robert Morcom
County Clerk

Gentlemen:

Attached for your files is a fully executed copy of an agreement covering the Malheur River (Harper) and Bully Creek (Westfall) Bridges on the Harper-Westfall Road.

We have retained a fully executed copy of this agreement for the Commission's files.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fkn
Attachment

cc H. S. Cox
(conformed agreement)

RECEIVED
DEC 23 1968
FOR FILING

S-23-105(1)

7194

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
December 20, 1968

To: MEMO TO THE FILE

SUBJECT: Malheur R. (Harper) Bridge
Project S-23-105(1)
Use of State-furnished
Prestressed Beams

The State acquired these prestressed beams from the contractor on the Malheur River (Halliday) Bridge contract, when it was found that the prestressed beams as fabricated for span 1 were too short. The contractor's bid for furnishing and placing these beams was $7,400 and his cost for the beams delivered and stockpiled at the county shops in Vale was $7,068.53.

As set forth in the special provisions for the Malheur River (Harper) Bridge, these beams will be furnished at no cost to the contractor and his bid will consist only of hauling and placing the beams.

We feel it is within the best interests of the public to utilize these State-furnished materials as it is doubtful if a more favorable bid could be received at this time for the beams. Since Federal participation was not received for this material on the Halliday Bridge, it is our intention to charge the State's cost for this material to the Malheur River (Harper) Bridge project, and include these costs as participating.

D A Ridings
D. A. Ridings
Asst. Federal-Aid Engineer

CL:bb
cc: C. H. Maison
I. D. Merchant
R. N. Chase
H. S. Cox
C. G. Swenson

FAS 23-105
Malheur Co.

RM PR-48
EV. 10-66)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

TRANSMITTAL AND REQUEST FOR INITIAL PROGRAM APPROVAL OF PROJECTS

(PPM 21-1)

STATE HIGHWAY DEPARTMENT	DATE
Oregon	Dec. 9, 1968
BY (Signature) Mr. Young's Sept. 5, 1968 letter	
TITLE	

CLASS OF FEDERAL FUNDS
☐ FAI ☐ FAP ☐ FAU XXX FAS ☐ OTHERS

E 1*
NOS. ______ THRU ______

STAGE 2
ITEM NOS. 1001 THRU 1002

	PROJECT NOS.	LENGTH (Miles)	TOTAL ESTIMATED COST	FEDERAL FUNDS	OTHER IDENTIFICATION AND/OR REMARKS (State) Location	Work
1001	S-516(2)	0.031	125,000	75,000	East Fork Hood River (toll) Br.	1 Struc.
1002	S-23-105(1)*	0.070	155,000	93,000	Malheur Riv. (Harper) Br. & Bully Creek (Westfall) Br	2 struc's.
			$230,000	$168,000		

* Project No. for IBM = S-23-10(501)

NOTED
H. S. COX

RECEIVED
DEC 12 1968
ENGINEER
COUNTY & CITY DIVISION

12-12-68
cox + Young

NOTED
RICHARD UNREIN

RKS (Division)

Item 1001 is classified as "Safety".

Item 1002: The 28-foot structure width justified by Mr. Prange's August 28 letter is approved as an exception to the Secondary Road Plan. Your statement on the UPRR crossing is accepted.

The provisions of IM 80-1-68 is not applicable to these two projects.

You are authorized to proceed with actions necessary to advance to completion the physical construction provided for by the above projects in accordance with the provisions of your approved Secondary Road Plan. If you subsequently find that exceptions to the procedure will be needed or that your proposed design standards other than approved above for these projects are lower than the minimum design standards as approved June 24, 1968, this office should be notified of such proposed exceptions and reasons thereof.

NOTED
P. B. Arensmeier

NOTED
HAROLD REYNOLDSON

RECOMMENDED		APPROVED
SIGNATURE AND TITLE NOTED R. H. PRANGE	DATE 12/9/68 NOTED MAINOR C. HOLMES	SIGNATURE AND TITLE R. E. Simpson, Division Engineer

NOTED
DON HARWELL

approval and any authorization to proceed with a Stage 1 project shall not constitute and commitment of Federal funds nor shall it be construed as creating in any manner, any obligation on the of the Federal Government to provide Federal funds for the undertaking.

USCOMM-DC 15386-P66

RECEIVED
DEC 2 1968
ENGINEER
COUNTY & CITY DIVISION

NOTED
U. S. CO

November 26, 1968
(date)

RECEIVED
AT M.
NOV 27 1968
MALHEUR COUNTY

Malheur County Court
Courthouse
Vale, Oregon 97918

Gentlemen:

In order to comply with requirements of the Bureau of Public Roads covering protection of public resources such as recreational areas, historical sites, wild life refuges, or any other facility in which the public has a specific interest, it is required that local public authorities should be consulted regarding the impact on these resources of a planned highway improvement.

Would you please fill out the form below regarding these resources and return it to the Oregon State Highway Department, County and City Division, State Highway Building, Salem, Oregon (97310). Retain the second copy for your records.

NOTED
DON HARWELL

- -

Highway FAS 23-105

Section Malheur River (Harper) Bridge: Structure

Do you know of any public organization or quasi-official organizations that might be opposed to this project on the grounds of interference with recreational, historical, or public resources? Yes ☐ No ☒

TED
OLD
DSON

If answer is yes, please list organizations:

____
(date)

By Ellis A. White

By E W Maag
Commissioner

By
Commissioner

cc: L. H. Young
Attn: Duane Ridings

NOTED
MAINOR C. HOLMES

NOTED
RICHARD UNREIN

NOTED
P. B. Arensmeier

NOTED
R. H. PRANGE

NOTED
H. S. COX

RECEIVED
SEP 20 1968
ENGINEER
COUNTY & CITY DIVISION

19-68

Oregon State Highway Commission
State Highway Building
Salem, Oregon

Attention: County and City Division

SUBJECT: Federal Aid Project No. ____________

Highway No. FAS 23-105

Project Name Malheur River (Harper) Bridge and
Bully Creek (Westfall) Bridge

Gentlemen:

1. We hereby certify that, to the best of our knowledge and belief, all rights-of-way or rights-of-entry for the above referred to Federal-aid project have been secured.

2. We hereby certify that: (check one)

☒ There has been no displacement of persons from residences, farms, or businesses; or

☐ All displaced persons have been tendered all assistance possible and given all available information to assist in re-establishment in residence, farm, or business.

3. We hereby certify that the occupancy and/or adjustment of existing utilities within the right-of-way of the above referred to Federal-aid project have been authorized by permit, franchise, or other approved procedure.

Dated at Vale, Oregon, this 19th day of September, 1968.

Malheur County

Ellis A. White
Judge

Jack Fischer
Commissioner

E W Maag
Commissioner

Copy to:- John Oaks
Ted Roake
C. G. Swenson
R. N. Chase

(11/29/66)

NOTED
R. H. PRANGE

(12-7-66 150)

NOTED
MAINOR C. HOLMES

NOTED
[illegible] UNREIN

[illegible]

NOTED
DON HARWELL

MONTHLY TRANSACTION NO.	FORM PR-1 (REV. 4-61)
DATE SUBMITTED TO W. O.	

FEDERAL-AID PRO

(PPM 21-

CARD 2	REPORT NUMBER 1 (18) (20)	PROJECT LOCATION *(45 typewriter spaces)* Co.Rd. 0.46 Mi. S. Harper & 0.56 Mi. S. Westfall 21 65	ADT	PRESENT 360 110	FUTURE 550 160 (66) (70)	YEAR 88 (71) (72

CARD 3	CHARACTER OF PROPOSED WORK *(35 typewriter spaces)* Two Bridges 28 62	NATL. FOREST (63) (65)	FH ROUTE NO. (66) (68)	SUPV AGCY (69)	DA CLASSIF. (70)	DA AREA (71)	EMERG. YR. (72) (73)	PL. AUTH Y (74) (75

CARD 4	CLASS OF FEDERAL FUNDS Secondary	COUNTY NAME Malheu	
	NAME OF URBAN AREA 17-31	ROUTE NO. S	FEDERAL-AID 15-105

CARD 5	LINE NO.	CHANGE CODE	PROJECT CODE	CLASS	WORK TYPE	STEP	TERMINI *(Full description)*	MILES	ESTIMATED PROJECT COS TOTAL ESTIMATED COST	FEDERAL FUNDS
1	(14-15)	(16	41	42	43 46	53		(54) (58)	(59) (66)	(67) (76
5					**PE**		Co.Rd. 0.46 mi. S. of Harper and 0.56 mi. S. of Westfall			
5					**ROW**		/Malheur River (Harper) Bridge and Bully Creek (Westfall) Bridge/			
5					**CONST** (CODE)			0.07	155,000	93,000

CARD 1	CODE 1	PREPARED BY	PROJECT TOTALS	0.07	155,000	93,000
1	14	PROGRAM APPROVAL DATES			(16) (23)	(24) (33

7194

Budget Bureau No. 41-R2067; Approval Expires February 28, 1966

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

(65)	**ADT**	PRESENT 360 110	FUTURE 550 160	YEAR 88	REGION 08	STATE NAME Oregon	STATE CODE 35	APPN CODE 022	ITEM NO. 1002

SUPV AGCY	DA CLASSIF.	DA AREA	EMERG. YR.	PL. AUTH YR	PROJECT NUMBER PREFIX LETTER(S) S-	NUMBER 23-105(1)	SEQ. NO.	I. Projects Only POST MI.	DESIG.

COUNTY NAME Malheur	CODE 045		PROGRAM STAGE
ROUTE NO. S	FEDERAL-AID 15-105	STATE Co.Rd.	U.S.	☐ 1 OR ☒ 2

ESTIMATED PROJECT COST BY PHASES

	MILES	TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS	CHARACTER OF PROPOSED WORK (Full description)
of S.						One RCDG Bridge (Malheur River) and one concrete prestressed slab bridge (Bully Creek). Length 369', HC 28' ROW - 60' minimum; Access Control - none; Parking Restrictions - none.
per) reek						
	0.07	155,000	93,000	31,000	31,000 (Co.)	
CT S	0.07	155,000	93,000	31,000	31,000 (Co.)	

REMARKS Relocation Assistance - None involved.

USCOMM DUSCOMM-DC 46905-P61

MALHEUR RIVER (HARPER) BRIDGE AND BULLY CREEK (WESTFALL) BRIDGE

Project S-23-105(1)

Existing Facilities

Harper - structure 233 feet long with a 14.5-foot roadway and consisting of 1-81' steel pony truss and 1-152' steel through truss.

Westfall - structure 110' long which consists of 2-15' frame approach trestles and 1-80' steel pony truss, and having a roadway width of 14'9".

Adjacent Sections

North End: 20' oil mat with 4' gravel shoulders.

South End: same as north end.

Project Data

Harper - construct a RCDG bridge, over the Malheur River, 242' long and with a 28' roadway - no sidewalks - no additional right of way.

Westfall - construct a concrete bridge, over Bully creek, with a precast slab deck 127' long with a 28' roadway - no sidewalks - no additional right of way.

Contractor to remove old bridges.

County will construct approaches and connections.
Detours to be county responsibility.

Right of way - 60' minimum
Access Control - None
RR Xing - None
Minimum Design Standards - See Mr. Prange
August 28, 1968 justifying substandard wi

System Action - Completed
Public Hearing - Not necessary
Unusual or Complicated Situations - A UP
0.25 mile north of Harper Bridge: No. o
2 mainline, 1 siding; 4 trains a day - 2
2 switching action; speed of trains - sl
protection - "X" bucks. County to place
warning signs and this will provide adeq
tion.

Route Data - See S-182(1)

ER) BRIDGE AND
FALL) BRIDGE

-105(1)

ong with a 14.5-foot
ng of 1-81' steel pony
el through truss.

which consists of 2-15'
les and 1-80' steel
ng a roadway width of

gravel shoulders.

dge, over the Malheur
with a 28' roadway -
itional right of way.

bridge, over Bully
t slab deck 127' long
no sidewalks - no
way.

s.

s and connections.
lity.

Right of way - 60' minimum
Access Control - None
RR Xing - None
Minimum Design Standards - See Mr. Prange's letter of August 28, 1968 justifying substandard width of 28'.

System Action - Completed
Public Hearing - Not necessary
Unusual or Complicated Situations - A UPRR crossing 0.25 mile north of Harper Bridge: No. of tracks - 2 mainline, 1 siding; 4 trains a day - 2 freight and 2 switching action; speed of trains - slow; present protection - "X" bucks. County to place advance warning signs and this will provide adequate protection.

Route Data - See S-182(1)

(Westfall)

August 28, 1968
(date)

RECEIVED
SEP 9 - 1968
ENGINEER
COUNTY & CITY DIVISION

NOTED
H. S. COX

RECEIVED
AT .... M.
AUG 29 1968
MALHEUR COUNTY

Delayed
BPR hold
on
Fed Funds

Malheur County Court
Courthouse
Vale, Oregon 97918

In order to comply with requirements of the Bureau of Public Roads covering protection of public resources such as recreational areas, historical sites, wild life refuges, or any other facility in which the public has a specific interest, it is required that local public authorities should be consulted regarding the impact on these resources of a planned highway improvement.

Would you please fill out the form below regarding these resources and return it to the Oregon State Highway Department, County and City Division, State Highway Building, Salem, Oregon (97310). Retain the second copy for your records.

NOTED
DON HARWELL

- -

Highway FAS 23-105

Section Bully Creek (Westfall) Bridge: Structure

Do you know of any public organization or quasi-official organizations that might be opposed to this project on the grounds of interference with recreational, historical, or public resources? Yes ☐ No ☒

If answer is yes, please list organizations:

NOTED
HAROLD
REYNOLDSON

Sept. 4, 1968
(date)

By Ellis A White

By [illegible]
Commissioner

By E W Maag
Commissioner

NOTED
R. H. PRANGE

NOTED
MAINOR C. HOLMES

copy to L. H. Young, Attn: Duane Ridings

(Harper)

RECEIVED
SEP 9 - 1968
ENGINEER
COUNTY & CITY DIVISION

August 28, 1968
(date)

RECEIVED
AT M.
AUG 29 1968
MALHEUR COUNTY

NOTED
H. S. COX

Delayed BPR hold on Fed Funds

Malheur County Court
Courthouse
Vale, Oregon 97918

In order to comply with requirements of the Bureau of Public Roads covering protection of public resources such as recreational areas, historical sites, wild life refuges, or any other facility in which the public has a specific interest, it is required that local public authorities should be consulted regarding the impact on these resources of a planned highway improvement.

Would you please fill out the form below regarding these resources and return it to the Oregon State Highway Department, County and City Division, State Highway Building, Salem, Oregon (97310). Retain the second copy for your records.

NOTED
DON HARWELL

- -

Highway FAS 23-105

Section Malheur River (Harper) Bridge

Do you know of any public organization or quasi-official organizations that might be opposed to this project on the grounds of interference with recreational, historical, or public resources? Yes ☐ No ☒

If answer is yes, please list organizations:

NOTED
HAROLD
REYNOLDSON

Sept. 4, 1968
(date)

By Ellis A. White

By
Commissioner

By E W Moag
Commissioner

NOTED
H PRANGE

NOTED
MAINOR C. HOLMES

NOTED

copy to L. H. Young, ATTN: Duane Ridings

SAFETY: No

MEMO TO R. N. CHASE Date: August 28, 1968

OTED
H. S. COX

FAS 23-105, MALHEUR COUNTY, MALHEUR RIVER (HARPER) BRIDGE and BULLY CREEK (WESTFALL) BRIDGE SECTIONS

TERMINI: A bridge over the Malheur River 0.24 mile north of the junction with FAP 31 - near the town of Harper. M.P. 0.24

A bridge over Bully Creek, near the community of Westfall, which is 11.94 miles northwesterly from junction with FAP 31 near the town of Harper. M.P. 11.94

PROPOSED WORK: Structures

PROJECT LENGTH: 369 feet

Costs:	TOTAL	FEDERAL	STATE	COUNTY
CONSTRUCTION	$155,000	$93,000	$31,000	$31,000

EXISTING FACILITIES: HARPER - structure 233 feet long with a 14.5-foot roadway and consisting of 1-81' steel pony truss and 1-152' steel through truss.

WESTFALL - structure 110' long which consists of 2-15' frame approach trestles and 1-80' steel pony truss, and having a roadway width of 14'9".

ADJACENT SECTIONS:
NORTH END: 20' oil mat with 4' gravel shoulders.

SOUTH END: same as north end.

PROJECT DATA: HARPER - construct a RCDG bridge, over the Malheur River, 242' long and with a 28' roadway - no sidewalks - no additional right of way.

WESTFALL - construct a concrete bridge, over Bully Creek, with a precast slab deck 127' long with a 28' roadway - no sidewalks - no additional right of way.

Contractor to remove old bridges.

County will construct approaches and connections. Detours to be county responsibility.

RIGHT OF WAY: 60' minimum
ACCESS CONTROL: None
RR XING: None
MINIMUM DESIGN STANDARDS: See letters justifying substandard width of 28'.
SYSTEM ACTION: Completed
PUBLIC HEARING: Not necessary.
UNUSUAL OR COMPLICATED SITUATIONS: A UPRR crossing 0.25 mile north of Harper Bridge:
No. of tracks - 2 mainline, 1 siding; 4 trains a day-2 freight & 2 switching action;
Speed of trains - slow; present protection - "X" bucks.
County to place advance warning signs and this will provide adequate protection.

ROUTE DATA: See S-182(1)

NOTED
HAROLD REYNOLDSON

NOTED
R. H. PRANGE

NOTED
RICHARD UNREIN

NOTED
MAINOR C. HOLMES

NOTED
P. B. Arensmeier

NOT
DON H

RECEIVED
SEP 3 - 1968
FOR FILING

FORM E-123X 50 M 8-67
COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
~~DAVID B. SIMPSON, MEMBER~~
PORTLAND
FRED W. HILL, MEMBER
PENDLETON

STATE OF OREGON
STATE HIGHWAY DEPARTMENT

S-23-105(1)
7194

August 28, 1968

Mr. R. H. Simpson, Division Engineer
Bureau of Public Roads
477 Cottage Street N.E.
Salem, Oregon 97301

Dear Mr. Simpson:

Programming data will be submitted to you very shortly covering the Malheur River (Harper) Bridge and the Bully Creek (Westfall) Bridge on FAS Route 23-105 in Malheur County. It is requested that the 28-foot designed width for these two structures be approved as an exception to the Minimum Design Standards for New Construction on Highways Other Than Freeways.

Although the new standards were made a part of our Secondary Road Plan, effective June 24, 1968, the State at the specific request of Malheur County determined prior to that date that the 28-foot widths for the Harper and Westfall Bridges were adequate to meet the standards in effect at that time. We concur with the attached statement from the County that the two proposed structures, being actually two feet wider than the existing roadway, will more than adequately serve the needs of the county road system in that area.

Very truly yours,

H. S. Cox
County and City Engineer

by

R H Prange
R. H. Prange
Field Engineer

RHP:sb
bc Tom Edwards
F. B. Klaboe
F. D. Morgan
L. H. Young

NOTED
TOM EDWARDS

RECEIVED
AUG 28 1968
OFFICE OF
STATE HIGHWAY ENGINEER

The County of Malheur

VALE, OREGON

April 2, 1968

Mr. H. S. Cox
County and City Engineer
Oregon State Highway Department
Salem, Oregon 97310

Re: Malheur River (Harper) Bridge and
Bully Creek (Westfall) Bridge
FAS 23-105, Harper-Westfall Road

Dear Mr. Cox:

The County Court finds that the Harper and Westfall bridges are both on the Harper - Westfall Road, and part of an FAS Project begun in 1959 and completed in 1963. The road has a 20' oiled mat with what appears to be a 3' shoulder, or a total of 26' shoulder to shoulder.

The road is servicing an area of declining population, resulting from consolidation of smaller farms and ranch units into larger and more feasible units. From recent studies of the Malheur Basin by the Army Corp of Engineers, additional sites for reservoirs for further irrigation in both the Harper and Westfall areas is limited to present water supplies by prior water rights of Bully Creek Reservoir northwest of Vale, and topography.

It is therefore the Court's judgement that 28' bridges on the 26' roadways are requested.

The salvage of the old bridges will be left to the contractor as a part of the contract.

Sincerely,

MALHEUR COUNTY COURT

Ellis A. White

By: Ellis A. White
Malheur County Judge

RECEIVED
APR 8 - 1968
ENGINEER
COUNTY & CITY DIVISION

MALHEUR COUNTY
PROPOSED FAS PROJECTS (1968 Funds)

FAS 23-105, Harper-Westfall Road: Malheur River (Harper) Bridge, $200,000.

Construct a reinforced concrete bridge, 28-foot roadway with no sidewalks. To be on existing alignment. Contractor to remove existing bridge. Road can be closed during construction - no detour necessary. No additional right of way.

State to make survey and vicinity map - County to construct the connections and approaches.

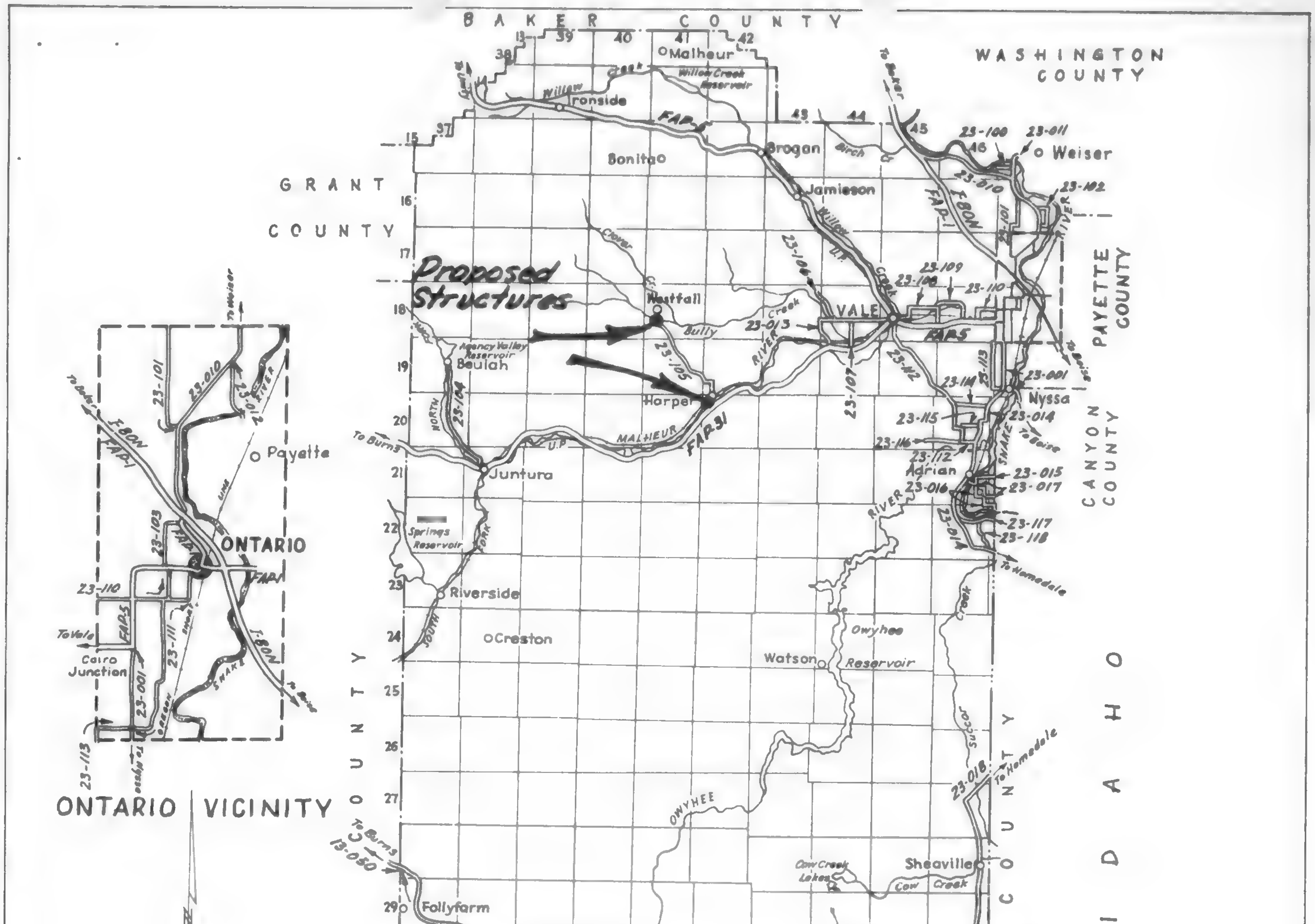
FAS 23-105, Harper-Westfall Road: Bully Creek (Westfall) Bridge, $60,000.

Construct a reinforced concrete bridge, 28-foot roadway with no sidewalks. To be on existing alignment. Contractor to remove existing bridge. Road can be closed during construction - no detour necessary. No additional right of way.

State to make survey and vicinity map - County to construct the connections and approaches.

HIWAY COMMISSION
APPROVED ON
APR 23 1968

68-c
4/8/68


Proposed Structures
BAKER COUNTY
WASHINGTON COUNTY
GRANT COUNTY
PAYETTE COUNTY
CANYON COUNTY
HARNEY COUNTY
OWYHEE COUNTY
IDAHO
HUMBOLDT COUNTY, NEVADA
ELKO CO.
Malheur
Ironside
Bonita
Brogan
Jamieson
Weiser
Westfall
Vale
Beulah
Harper
Juntura
Nyssa
Adrian
Riverside
Creston
Watson
Owyhee Reservoir
Sheaville
Cow Creek Lakes
Follyfarm
Arock
Danner
Jordan Valley
Rome
Scotts Butte
Burns Junction
Antelope Reservoir
McDermitt
Agency Valley Reservoir
Willow Creek Reservoir
Springs Reservoir
FAP 5
FAP 31
FAP 1
FAS
I-80N
23-100
23-011
23-010
23-102
23-101
23-106
23-108
23-109
23-110
23-013
23-105
23-104
23-107
23-112
23-113
23-114
23-115
23-116
23-001
23-014
23-015
23-016
23-017
23-117
23-118
23-018
23-119
23-120
23-050
13-050
To Burns
To Homedale
To Murphy
To Boise
To Baker
To Winnemucca
ONTARIO VICINITY
Ontario
Payette
Cairo Junction
To Vale
23-111
23-103
23

MALHEUR COUNTY

FAS SYSTEM

Scale 0 4 8 Mi. April 1967

- LEGEND -

FA Primary Highway
FAS Highway on State Primary Hwy.
FAS Highway on State Secondary Hwy.
FAS Highway on County Road

NOTED
H. S. COX

Salem, Oregon
July 19, 1968

Mr. George Wills
Construction Division
BUILDING

Malheur River (Westfall) Bridge
Harper-Westfall Road
FAS 23-105
Malheur County

The survey data for the subject project has been examined and found to be consistent with the project as requested by the County and approved by the Highway Commission. The road can be closed during construction.

The County wishes this bridge to be contracted in the summer of 1969.

NOTED
HAROLD
REYNOLDSON

HR

Harold Reynoldson
Planning Engineer
County and City Division

HR:cb

Enc.

NOTED
RICHARD UNREIN

NOTED
R. H. PRANGE

NOTED
[illegible]

NOTED
MAINOR C. HOLMES

NOTED
DON HAR[illegible]

FA - 23-165

The County of Malheur

VALE, OREGON

NOTED
H. S. COX

June 17, 1968

RECEIVED
JUN 18 1968
ENGINEER
COUNTY & CITY DIVISION

Mr. Cy Cox, Engineer
County-City Division
Oregon State Highway Department
Salem, Oregon 97310

Dear Cy:

Malheur County has 4 62' 6" long pre-stressed concrete bridge beams at our County Shop Yard, Vale, Oregon, which were designed for use in the Halliday Bridge. These beams were stored by request of Robert Pool, Resident Bridge Engineer.

Mr. Pool stated to the Court that a 10' mistake made when laying out the location of the North piling of the Halliday Bridge necessitated ordering pre-stressed beams 10' longer than specified by the Highway Department and let by bid to Stach Construction Company.

When notifying the Court of the mistake, Mr. Pool stated that the 4 beams would be incorporated in the design of the proposed Harper Bridge. The Court has carefully considered the proposal; and, it appears that the bridge as originally designed and let for the Halliday Site on the Malheur River will be adequate for the Harper Site.

It is noted that the present Harper Bridge is 260' in length; however, the Harper Bridge is some 30 miles upstream from the Halliday Bridge on the Malheur River, and above the Bulley Creek and Willow Creek and also above numerous drainage ditches which empty into the river. Therefore, the water flow is considerably less than the volume at the Halliday Site.

Malheur County will have available budgeted matching monies for the Harper Bridge on July 1, 1968, and we will appreciate early letting of the contract.

[illegible] set
[illegible] July '69

Sincerely,

MALHEUR COUNTY COURT

Ellis A. White

By: Ellis A. White
Malheur County Judge

NOTED
R. H. PRANGE

P. B. Arensmeier

NOTED
HAROLD
REYNOLDSON

Copy to Ted Roake

NOTED
RICHARD UNREIN

NOTED
MAINOR C. HOLMES

NOTED
DON HARWELL ✓

COMMISSIONERS
WAYNE E. PHILLIPS, BAKER
[illegible]
JOSEPH W. SMITH, KLAMATH FALLS
VICE CHAIRMAN
JOHN P. AMACHER, WINCHESTER
J. PAT METKE, BEND
GEORGE L. HIBBARD, OREGON CITY

MAILING ADDRESS
P. O. BOX 3503
PORTLAND, OREGON 97208

STATE OF OREGON
OREGON STATE GAME COMMISSION
1634 S. W. ALDER STREET
PORTLAND

5-23-105(1)

7194

May 17, 1968

Routing
Morgan
Decker
Baird
[illegible]
Walker
Glenn
Swan

RECEIVED
MAY 20 1968
CONSTRUCTION
DIVISION

Pease
Morelock
Trout
Scott
Wills
Litchfield
Olson

State Highway Engineer
State Highway Department
Salem, Oregon 97310

Attention: Mr. F. D. Morgan

Dear Sir:

This is in reply to your letter of May 8, 1968, which enclosed prospectuses for the following projects.

1. Bully Creek (Westfall) Bridge Section, Harper-Westfall County Road, FAS 23-105, Malheur County
2. Malheur River (Harper) Bridge Section, Harper-Westfall County Road, FAS 23-105, Malheur County

Neither of the above projects will have any detrimental effect on wildlife resources, and they are approved.

Very truly yours,

P. W. SCHNEIDER
DIRECTOR

By R. O. Koski

R. O. Koski
Chief of Liberations

ROK/ln

5-20-68 Copies to: F. B. Klaboe
L. H. Young
Frank Hall (2)
T. C. Roake
J. E. Morelock
A. F. Parson (4)
fw

5-8-68

Prefix No. 523-1417

LOCATION PROSPECTUS
MALHEUR RIVER (HARPER) BRIDGE SECTION
HARPER-WESTFALL COUNTY ROAD, FAS 23-105
MALHEUR COUNTY

HIGHWAY: Harper-Westfall County Road, Federal-aid Secondary No. 23-105.

TERMINI: Structure site is where Harper-Westfall County Road crosses the Malheur River approximately 0.25 mile northwesterly of junction of Central Oregon Highway with said county road, about 23 miles southwesterly from Vale..

PROGRAM: 1968 FAS-C Funds.

NARRATIVE: This will be a location survey to prepare plans, estimates and specifications for the replacement of an existing bridge. Reconnaissance will not be needed. Soils investigations will be conducted. Road to be closed during construction. County to construct approaches.

CHARACTERISTICS: 1966 ADT 320; projected ADT 450.

EXISTING TYPICAL SECTION: Two 11-foot travel lanes with 3-foot shoulders.

BRIDGE: Proposed structure to have a 28-foot horizontal clearance without sidewalks.

AGREEMENTS: Routine County FAS-C project. Routine utility adjustment.

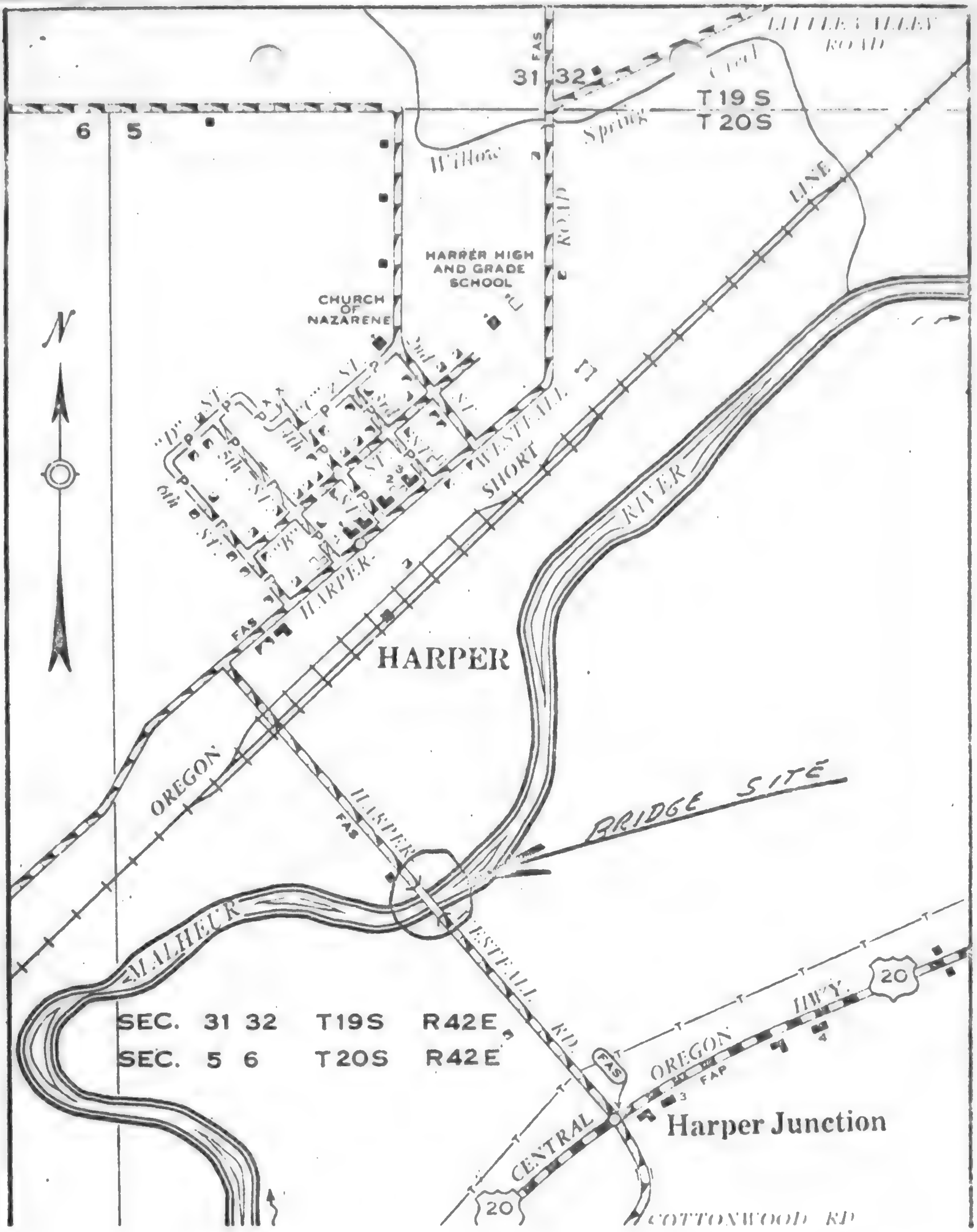
PARKS: None.

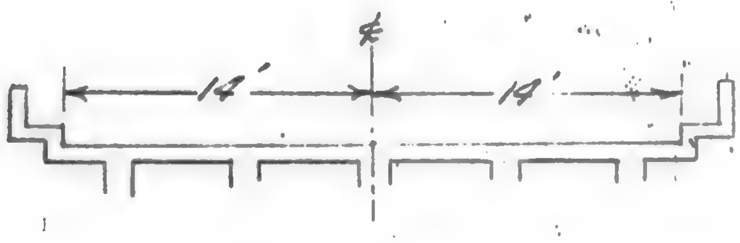
May 8, 1968
Attachment

cc: R. E. Simpson (3)
Forrest Cooper
Victor D. Wolfe
F. B. Klaboe
Tom Edwards
F. D. Morgan
A. F. Parson (3)
Mark Astrup
R. N. Chase
H. S. Cox (2)
F. B. Crandall
W. N. Hackleman
Frank Hall
E. S. Hunter
Val Johnson
Ivan Merchant (4)
D. H. Moehring (3)
A. D. Olson
James Owens
Phil Preston (2)
Jack Rowland
Robert Royer
W. H. Tebeau
O. C. Turner
F. W. Yarbrough (2)
L. H. Young

RECEIVED
MAY 10 1968
OFFICE OF
STATE HIGHWAY ENGINEER

NOTED
FORREST COOPER


LITTLE VALLEY ROAD
FAS
31 32
T19S
T20S
6 5
Willow Spring Creek
ROAD
HARPER HIGH AND GRADE SCHOOL
CHURCH OF NAZARENE
N
"D" ST.
6th ST.
5th ST.
4th ST.
3rd ST.
2nd ST.
"B" ST.
WESTFALL
SHORT
LINE
RIVER
HARPER
FAS
HARPER
OREGON
BRIDGE SITE
HARPER
FAS
MALHEUR
WESTFALL RD.
SEC. 31 32 T19S R42E
SEC. 5 6 T20S R42E
FAS
OREGON
HWY.
20
FAP
CENTRAL
Harper Junction
20
COTTONWOOD RD



BRIDGE DECK

PROSPECTUS MAP
MALHEUR R. (HARPER) BR.
FAS 23-105
MALHEUR CO.
MAY 1968

RECEIVED
[illegible] 3 - 1968

5-23-105 (1)
7174

FISH COMMISSION

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

May 8, 1968

Mr. Robert W. Schoning
State Fisheries Director
Fish Commission of Oregon
307 State Office Building
Portland, Oregon 97201

Dear Sir:

Enclosed are the following prospectuses for location surveys proposed by the Oregon State Highway Department:

Bully ~~Creek~~ (Westfall) Bridge Section, Harper-Westfall County Road, FAS 23-105, Malheur County

Malheur River (Harper) Bridge Section, Harper-Westfall County Road, FAS 23-105, Malheur County.

This data is forwarded to comply with Modification No. 1 dated May 19, 1965 of our Memorandum of Understanding dated September 12, 1963.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

F. D. Morgan
Construction Engineer

Enc.

5-29-68 Copies to;
F.E. Klaboe
L.H. Young
Frank Hall (2)
T. C. Roake
J.E. Morelock
A. F. Parson (4)
lw

RECEIVED
MAY [illegible] 1968

SMK 5-17-68
Dear Mr. Morgan,
[illegible] of our agreement [illegible] will [illegible] with the Oregon Game Commission [illegible] Malheur County.
Thank you

4-8-68

MALHEUR COUNTY
PROPOSED FAS PROJECTS (1968 Funds)

FAS 23-105, Harper-Westfall Road: Malheur River (Harper) Bridge, $200,000.

Construct a reinforced concrete bridge, 28-foot roadway with no sidewalks. To be on existing alignment. Contractor to remove existing bridge. Road can be closed during construction - no detour necessary. No additional right of way.

State to make survey and vicinity map - County to construct the connections and approaches.

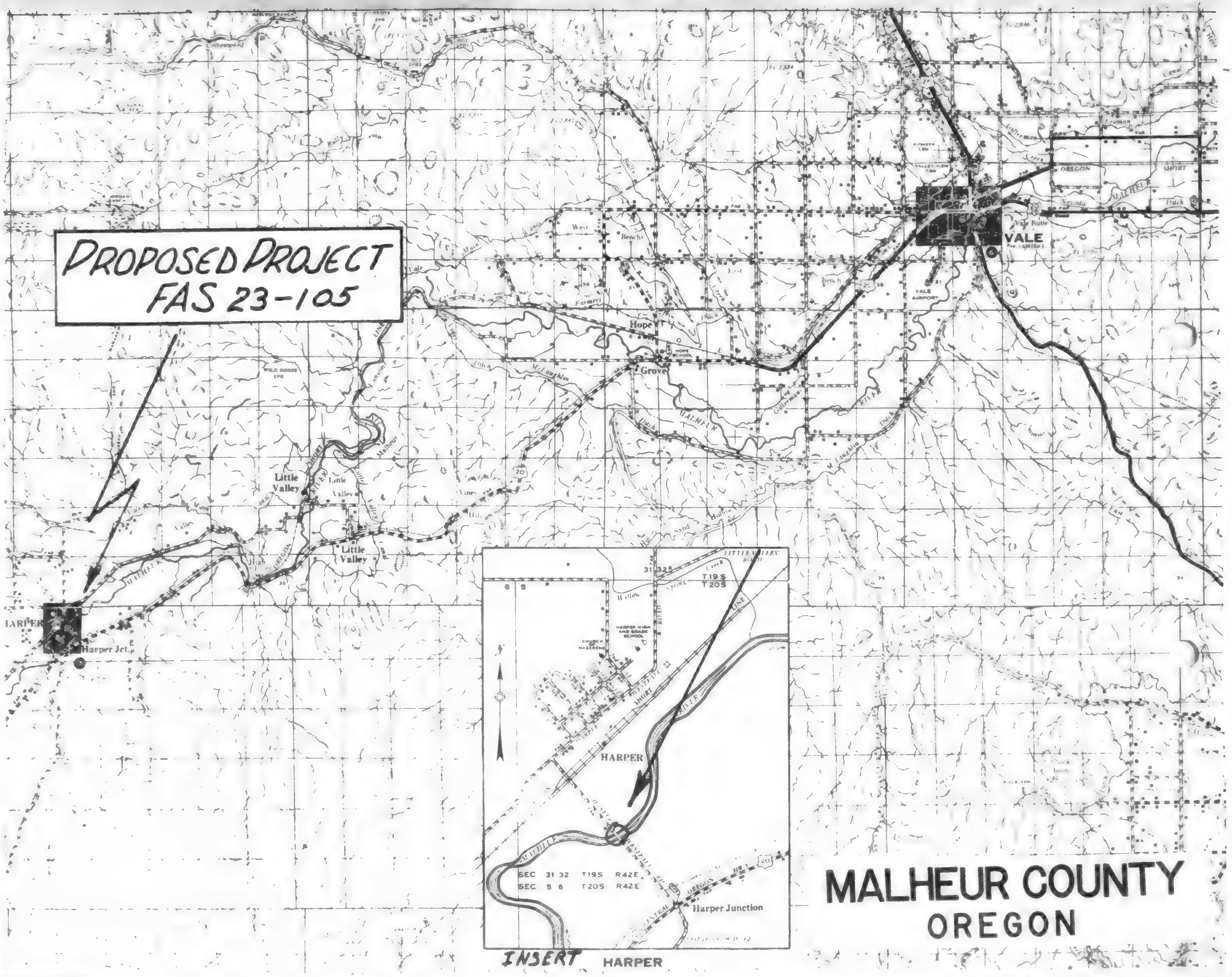
FAS 23-105, Harper-Westfall Road: Bully Creek (Westfall) Bridge, $60,000.

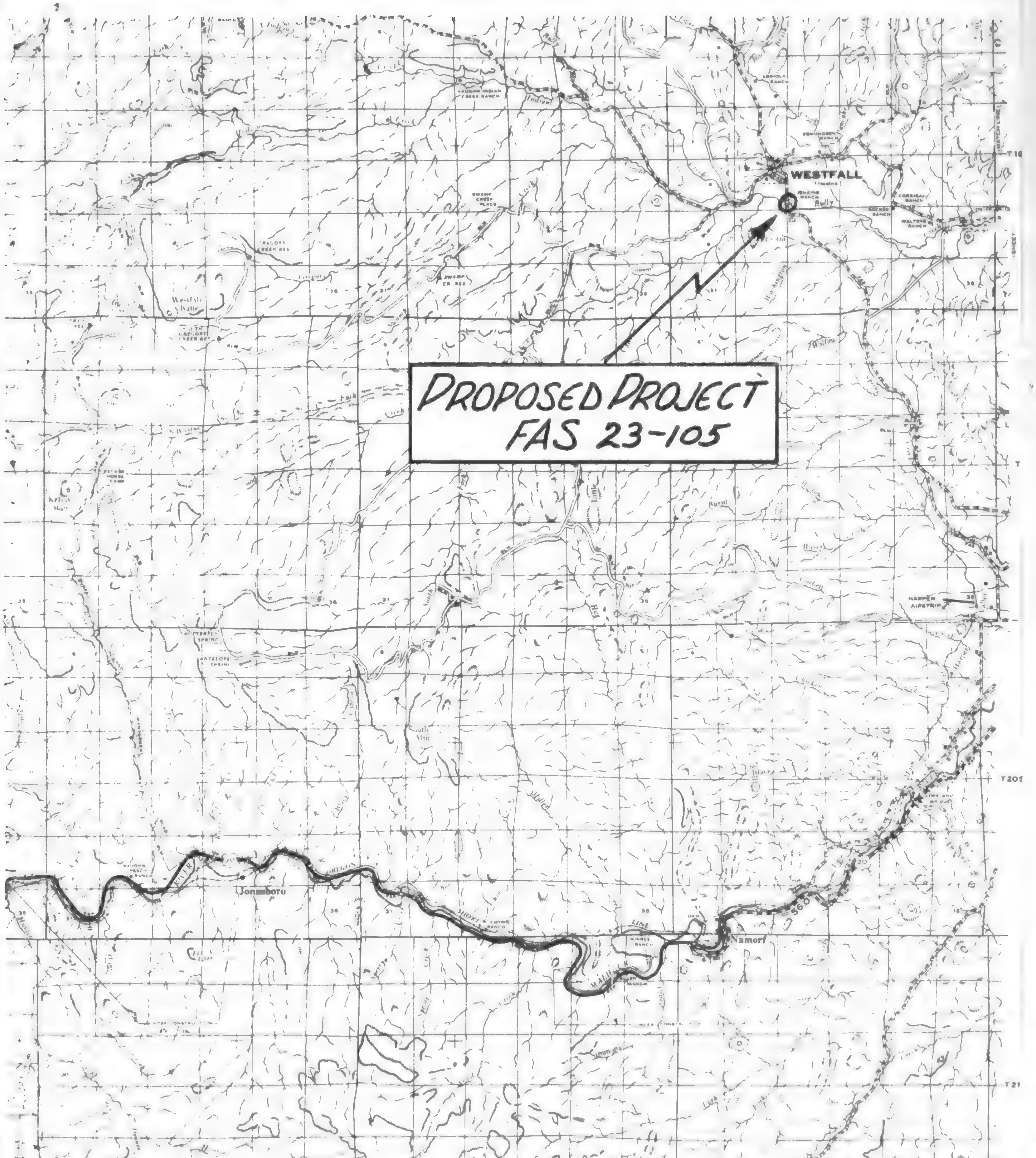
Construct a reinforced concrete bridge, 28-foot roadway with no sidewalks. To be on existing alignment. Contractor to remove existing bridge. Road can be closed during construction - no detour necessary. No additional right of way.

State to make survey and vicinity map - County to construct the connections and approaches.

HIWAY COMMISSION
APPROVED ON
APR 23 1968

68-c
4/8/68


PROPOSED PROJECT
FAS 23-105
VALE
Vale Butte
VALE AIRPORT
OREGON
SHORT
MALHEUR
Bench
West
East
Hope
HOPE SCHOOL
Grove
MALHEUR RIVER
Little Valley
Little Valley
Little Valley
WILD HORSE SPR
20
HARPER
Harper Jct.
LITTLE VALLEY ROAD
31 32
T19S
T20S
6 5
HARPER HIGH AND GRADE SCHOOL
CHURCH NAZARENE
HARPER
SEC 31 32 T19S R42E
SEC 5 6 T20S R42E
Harper Junction
INSERT HARPER
MALHEUR COUNTY
OREGON


WESTFALL
JENKINS RANCH
Bully
AGRICOLA RANCH
COUNTY INDIAN CREEK RANCH
SWAMP CREEK PLACE
SWAMP CR RES
CORRIGAL RANCH
BECKER RANCH
WALTERS RANCH
Willow
Westfall Butte
HARPER AIRSTRIP
BUTTERFIELD SPRING
ANTELOPE SPRING
South Mtn
Jonesboro
Namorf
MALHEUR
Harper Basin
T20S
T21
Table Peak

PROPOSED PROJECT
FAS 23-105

MALHEUR COUNTY
OREGON

The County of Malheur

VALE, OREGON

April 2, 1968

Mr. H. S. Cox
County and City Engineer
Oregon State Highway Department
Salem, Oregon 97310

Re: Malheur River (Harper) Bridge and
Bully Creek (Westfall) Bridge
FAS 23-105, Harper-Westfall Road

Dear Mr. Cox:

The County Court finds that the Harper and Westfall bridges are both on the Harper - Westfall Road, and part of an FAS Project begun in 1959 and completed in 1963. The road has a 20' oiled mat with what appears to be a 3' shoulder, or a total of 26' shoulder to shoulder.

The road is servicing an area of declining population, resulting from consolidation of smaller farms and ranch units into larger and more feasible units. From recent studies of the Malheur Basin by the Army Corp of Engineers, additional sites for reservoirs for further irrigation in both the Harper and Westfall areas is limited to present water supplies by prior water rights of Bully Creek Reservoir northwest of Vale, and topography.

It is therefore the Court's judgement that 28' bridges on the 26' right-of-ways are requested.

The salvage of the old bridges will be left to the contractor as a part of the contract.

RECEIVED
APR 8 - 1968
ENGINEER
COUNTY & CITY DIVISION

Sincerely,

MALHEUR COUNTY COURT

Ellis A. White

By: Ellis A. White
Malheur County Judge

To :- Ivan Merchant

NOTED
HAROLD
REYNOLDSON

Malheur
fas 23-105

NOTED
H. S. COX

Fred W. Hill, Member
Helix

March 20, 1968

Hon. Ellis A. White
Malheur County Judge
Courthouse
Vale, Oregon 97918

Malheur River (Harper) Bridge and
Bully Creek (Westfall) Bridge
FAS 23-105, Harper-Westfall Road

Dear Judge;

While reviewing the County's requests for subject bridges, it was noted that the desired widths of the structures are somewhat less than the FAS standards. In these request forms, the suggested width for bridges on county roads is 32 feet; and if the County definitely wishes a lesser width, a written statement to this effect with the reasons for the narrower width should be submitted to this office. In consideration of traffic volumes and safety, we feel very strongly and are quite insistent that the Harper Bridge especially should be at least 32 feet wide. In our consideration, the roadway width of a bridge should be at least the total width of the traveled roadway plus shoulders - or at the very minimum a width of 28 feet. Will you kindly favor us with a letter stating the County's decisions on the widths of these two structures, one at Harper, the other at Westfall. While deciding upon these widths, please take into consideration that these concrete bridges will serve the community for many years.

Also to be considered is the County's desire, as indicated in the requests, to have the contractor salvage the existing structures for the County. This leads to a question. B.P.R. regulations state that if the existing structure is to be salvaged by the contractor for the county, then the County must reimburse the B.P.R. an amount equal to the salvage value. The thinking is that had the contractor gotten the salvage value of the bridge, it would have been reflected in his bid price. We feel the County would get the old structure cheaper by dealing directly with the contractor for it. Either way, the salvage value of the bridge will be 100% County money. Please advise us which route the County wishes to take on this.

Since we will need time to prepare the material to present this to the Highway Commission for approval at the April meeting, please send your reply by A pril 3.

Very truly yours,

H. S. Cox
County and City Engineer

HR

By: Harold Reynoldson
Planning Engineer

HR:mm

NOTED
P. B. Arensmeier

NOTED
HAROLD
REYNOLDSON

NOTED
MAINOR C. HOLMES

NOTED
RICHARD UNREIN

NOTED
DON HARWELL

BRIDGE PROJECT REQUESTED BY **MALHEUR** COUNTY Date **October 12, 1966**

Is this to be a County project? ___ Yes **X** No
Is this to be an FAS-C project? **X** Yes ___ No

NOTE: For County Road projects, County is required to pay for all items marked with an asterisk.

For FAS projects omit questions marked with an asterisk.

1. County Road Name **Harper-Westfall Road**

FAS Number ~~526~~ 23-105

2. Name of river or stream **Malheur River**

3. Name of bridge **Harper Bridge**

4. Location (Please attach map with location marked):

Section **5** Township **20 S** Range **42 E** W.M.

5. Desired width of bridge (width of traveled way on FAS structures shall be 32' unless justified in writing by County):

See Judge White's Letter Apr 9, 1968

~~26~~ **feet**

6. Are sidewalks desired? ___ Yes **X** No

7. Width of sidewalks ___

8. Is sidewalk desired on upstream side of bridge? ___ Yes ___ No

9 Is sidewalk desired on downstream side of bridge? ___ Yes ___ No

10. Does County wish a particular type of bridge design? **X** Yes ___ No

If "Yes", explain type desired: **Prestressed Concrete**

11. Will County furnish any materials for bridge? ___ Yes **X** No

Explain: ___

*12. Does County wish State Highway Department to run survey and prepare vicinity map at County expense? ___ Yes ___ No

See Judge White's Attached letter

13. Will County run survey and furnish vicinity map? **X** Yes ___ No

14. Will County furnish foundation data? ___ Yes ___ No **To be arranged with State or Private Testing Laboratory.**

•15. Does County wish State Highway Department to make foundation tests at County expense? ___Yes ___No

16. Can road be closed during construction? X Yes ___No

17. Will detour be required? ✓ Yes ~~X~~ No

18. Will detour be constructed and maintained by County? ___Yes ___No

19. Will detour be constructed and maintained by contractor? ___Yes ___No

20. Will County construct approaches or connections? X Yes ___No

21. Will contractor construct approaches or connections under contract? ___Yes X No

22. State width of traveled roadway: 22' Width of shoulders: 3'

23. Will additional right-of-way be required? ___Yes X No
NOTE: Right-of-way costs must be paid by County.

24. Will additional right-of-way be acquired by deed ___, resolution ___?

25. Does County wish State to prepare option forms for County's use in acquiring right-of-way? ___Yes ___No

26. Will old bridge remain in place? ___Yes X No

27. Will old bridge be removed by contractor? X Yes ___No

28. Will old bridge be removed by County? ___Yes X No

29. Does County wish old bridge salvaged for future use? ~~X~~ Yes X No see letter

•30. If project is County bridge, does County wish State Highway Department to furnish construction engineering and inspection at County expense?
___Yes ___No

31. Does County wish State Highway Department to advertise and accept bids?
X Yes ___No (If County project, bids must be referred to County for County to award contract.)

32. Does County wish lightpost bases and conduit installed? ___Yes X No

33. Does County wish complete job of illumination in project? ___Yes X No

*15. Does County wish State Highway Department to make foundation tests at County expense? ___Yes ___No

16. Can road be closed during construction? _X_Yes ___No

17. Will detour be required? _✓_Yes _~~X~~_No

18. Will detour be constructed and maintained by County? ___Yes ___No

19. Will detour be constructed and maintained by contractor? ___Yes ___No

20. Will County construct approaches or connections? _X_Yes ___No

21. Will contractor construct approaches or connections under contract? ___Yes _X_No

22. State width of traveled roadway: _22'_ Width of shoulders: _3'_

23. Will additional right-of-way be required? ___Yes _X_No
NOTE: Right-of-way costs must be paid by County.

24. Will additional right-of-way be acquired by deed ___, resolution ___?

25. Does County wish State to prepare option forms for County's use in acquiring right-of-way? ___Yes ___No

26. Will old bridge remain in place? ___Yes _X_No

27. Will old bridge be removed by contractor? _X_Yes ___No

28. Will old bridge be removed by County? ___Yes _X_No

29. Does County wish old bridge salvaged for future use? _~~X~~_Yes _x_No see letter

*30. If project is County bridge, does County wish State Highway Department to furnish construction engineering and inspection at County expense? ___Yes ___No

31. Does County wish State Highway Department to advertise and accept bids? _X_Yes ___No (If County project, bids must be referred to County for County to award contract.)

32. Does County wish lightpost bases and conduit installed? ___Yes _X_No

33. Does County wish complete job of illumination in project? ___Yes _X_No

34. Will any of the following utilities be attached to this structure?

(a) Water mains: ___ Yes X No Size ________

(b) Sanitary sewer mains: ___ Yes X No Size ______

(c) Storm sewer: ___ Yes X No Size ______

(d) Gas mains: ___ Yes X No Size ______

(e) Power lines: ___ Yes X No

(f) Telephone lines: ___ Yes X No

(g) Other utilities? None

35. What is desired date for letting? Spring 1969

Remarks ____

By Ellis A. White
County Judge or Comm. Chairman

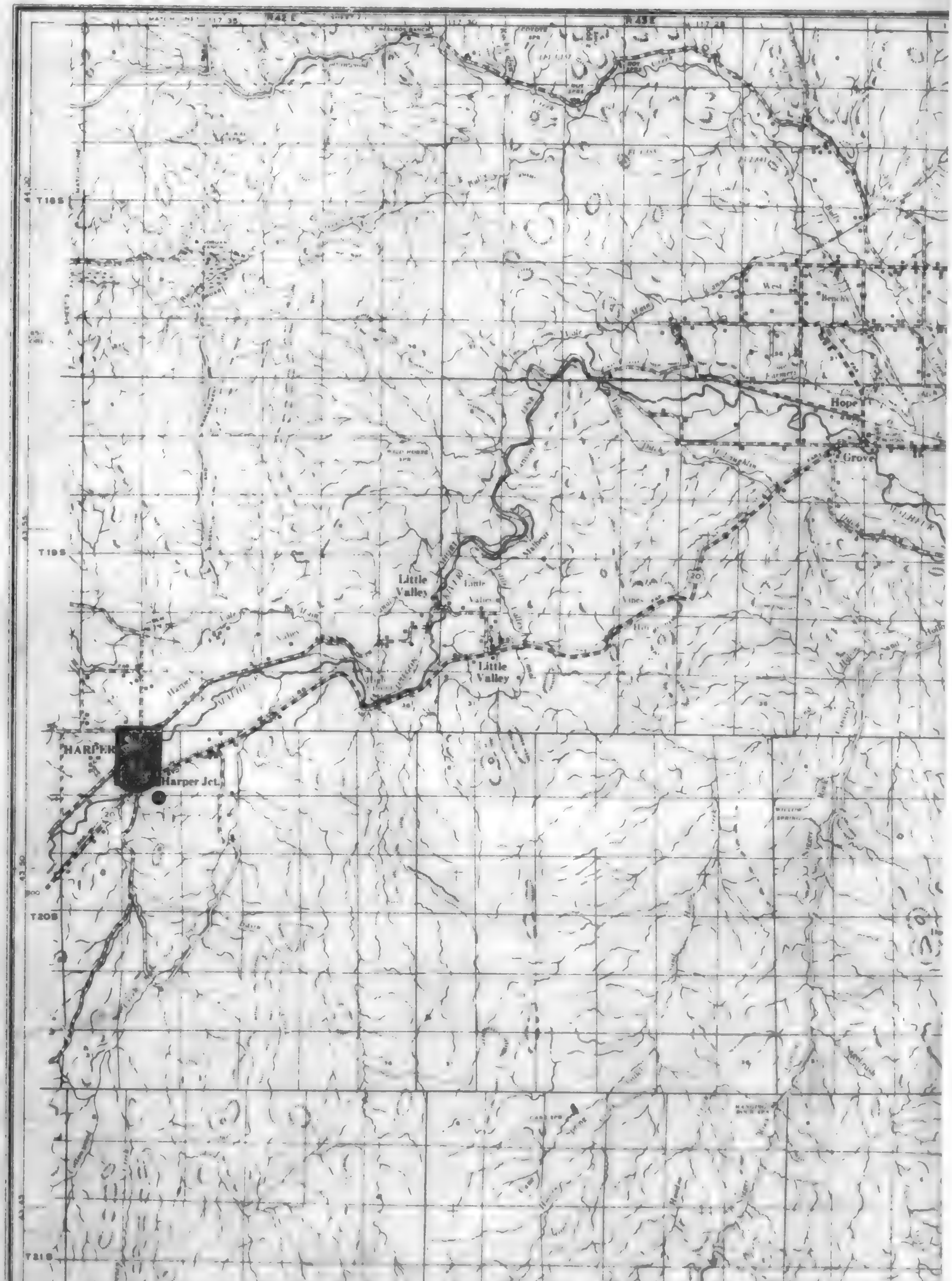
By ____________________
County Commissioner

By ____________________
County Commissioner

By ____________________
County Engineer or Roadmaster

COUNTY Malheur

Date October 12, 1966


R 42 E
R 43 E
117 35
117 30
117 25
COYOTE SPR
HOT SPRS
T 19 S
T 20 S
T 21 S
West
Bench
Hope
Grove
Little Valley
Little Valley
HARPER
Harper Jct.
20
Harper

BRIDGE PROJECT REQUESTED BY **MALHEUR** COUNTY Date **October 12, 1966**

Is this to be a County project? ___ Yes X No
Is this to be an FAS-C project? X Yes ___ No

NOTE: For County Road projects, County is required to pay for all items marked with an asterisk.

For FAS projects omit questions marked with an asterisk.

1. County Road Name **Harper Westfall Road**

FAS Number ~~526~~ 23-105

2. Name of river or stream **Bully Creek**

3. Name of bridge **Westfall Bridge**

4. Location (Please attach map with location marked):

Section **20-21** Township **18 S** Range **41 E** W.M.

5. Desired width of bridge (width of traveled way on FAS structures shall be 32' unless justified in writing by County): see Judge White letter Apr 2, 1965

24 feet

6. Are sidewalks desired? ___ Yes X No

7. Width of sidewalks ___

8. Is sidewalk desired on upstream side of bridge? ___ Yes X No

9. Is sidewalk desired on downstream side of bridge? ___ Yes X No

10. Does County wish a particular type of bridge design? X Yes ___ No

If "Yes", explain type desired: **Prestressed Concrete**

11. Will County furnish any materials for bridge? ___ Yes X No

Explain: ___

*12. Does County wish State Highway Department to run survey and prepare vicinity map at County expense? ___ Yes ___ No

Attached letter Judge White

13. Will County run survey and furnish vicinity map? X Yes ___ No

14. Will County furnish foundation data? ___ Yes ___ No **To be arranged with State or Private Testing Laboratory.**

*15. Does County wish State Highway Department to make foundation tests at County expense? ___Yes ___No

16. Can road be closed during construction? X Yes ___No

17. Will detour be required? ___Yes X No

18. Will detour be constructed and maintained by County? ___Yes ___No

19. Will detour be constructed and maintained by contractor? ___Yes ___No

20. Will County construct approaches or connections? X Yes ___No

21. Will contractor construct approaches or connections under contract? ___Yes X No

22. State width of traveled roadway: 22' Width of shoulders: 3'

23. Will additional right-of-way be required? ___Yes X No
NOTE: Right-of-way costs must be paid by County.

24. Will additional right-of-way be acquired by deed ___, resolution ___?

25. Does County wish State to prepare option forms for County's use in acquiring right-of-way? ___Yes ___No

26. Will old bridge remain in place? ___Yes X No

27. Will old bridge be removed by contractor? X Yes ___No

28. Will old bridge be removed by County? ___Yes X No

29. Does County wish old bridge salvaged for future use? ~~X~~ Yes X No see letter

*30. If project is County bridge, does County wish State Highway Department to furnish construction engineering and inspection at County expense? ___Yes ___No

31. Does County wish State Highway Department to advertise and accept bids? X Yes ___No (If County project, bids must be referred to County for County to award contract.)

32. Does County wish lightpost bases and conduit installed? ___Yes X No

33. Does County wish complete job of illumination in project? ___Yes X No

34. Will any of the following utilities be attached to this structure?

(a) Water mains: ___Yes X No Size ________

(b) Sanitary sewer mains: ___Yes X No Size ______

(c) Storm sewer: ___Yes X No Size ______

(d) Gas mains: ___Yes X No Size ______

(e) Power lines: ___Yes X No

(f) Telephone lines: ___Yes X No

(g) Other utilities? ______________________________

35. What is desired date for letting? May of year 1967

Remarks County is considering engaging Ready-to-Pour Concrete Company, P. O. Box 1221, Idaho Falls, Idaho, to design the bridge. LeGrande P. Marchant, P.E. Oregon #5556 is Engineering Manager. Design fee is to be included in total cost of Project and paid from participating agencies funds County, State and BPR.

By Ellis A. White
County Judge or Comm. Chairman

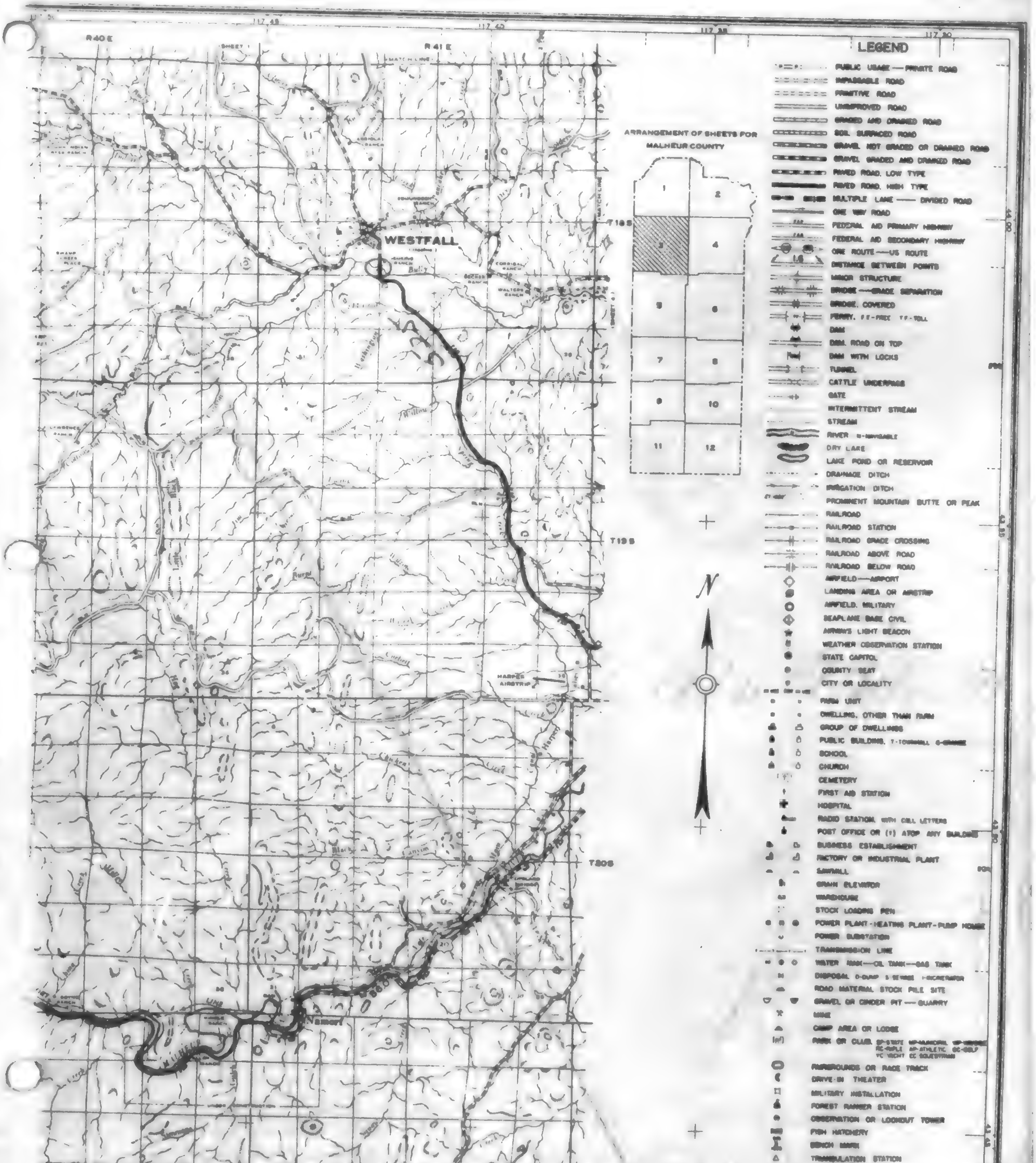
By ______________________
County Commissioner

By ______________________
County Commissioner

By ______________________
County Engineer or Roadmaster

COUNTY MALHEUR

Date October 12, 1966

R 40 E
R 41 E
117 45
117 40
117 35
117 30
WESTFALL
Bully
HARPER AIRSTRIP
T 19 S
T 20 S
T 21 S
ARRANGEMENT OF SHEETS FOR MALHEUR COUNTY
1
2
3
4
5
6
7
8
9
10
11
12
N
LEGEND
PUBLIC USAGE — PRIVATE ROAD
IMPASSABLE ROAD
PRIMITIVE ROAD
UNIMPROVED ROAD
GRADED AND DRAINED ROAD
SOIL SURFACED ROAD
GRAVEL NOT GRADED OR DRAINED ROAD
GRAVEL GRADED AND DRAINED ROAD
PAVED ROAD, LOW TYPE
PAVED ROAD, HIGH TYPE
MULTIPLE LANE — DIVIDED ROAD
ONE WAY ROAD
FEDERAL AID PRIMARY HIGHWAY
FEDERAL AID SECONDARY HIGHWAY
ONE ROUTE — US ROUTE
DISTANCE BETWEEN POINTS
MINOR STRUCTURE
BRIDGE — GRADE SEPARATION
BRIDGE, COVERED
FERRY, FF-FREE TF-TOLL
DAM
DAM, ROAD ON TOP
DAM WITH LOCKS
TUNNEL
CATTLE UNDERPASS
GATE
INTERMITTENT STREAM
STREAM
RIVER N-NAVIGABLE
DRY LAKE
LAKE POND OR RESERVOIR
DRAINAGE DITCH
IRRIGATION DITCH
PROMINENT MOUNTAIN BUTTE OR PEAK
RAILROAD
RAILROAD STATION
RAILROAD GRADE CROSSING
RAILROAD ABOVE ROAD
RAILROAD BELOW ROAD
AIRFIELD — AIRPORT
LANDING AREA OR AIRSTRIP
AIRFIELD, MILITARY
SEAPLANE BASE CIVIL
AIRWAYS LIGHT BEACON
WEATHER OBSERVATION STATION
STATE CAPITOL
COUNTY SEAT
CITY OR LOCALITY
FARM UNIT
DWELLING, OTHER THAN FARM
GROUP OF DWELLINGS
PUBLIC BUILDING, T-TOWNHALL G-GRANGE
SCHOOL
CHURCH
CEMETERY
FIRST AID STATION
HOSPITAL
RADIO STATION, WITH CALL LETTERS
POST OFFICE OR (†) ATOP ANY BUILDING
BUSINESS ESTABLISHMENT
FACTORY OR INDUSTRIAL PLANT
SAWMILL
GRAIN ELEVATOR
WAREHOUSE
STOCK LOADING PEN
POWER PLANT - HEATING PLANT - PUMP HOUSE
POWER SUBSTATION
TRANSMISSION LINE
WATER TANK — OIL TANK — GAS TANK
DISPOSAL D-DUMP S-SEWAGE I-INCINERATOR
ROAD MATERIAL STOCK PILE SITE
GRAVEL OR CINDER PIT — QUARRY
MINE
CAMP AREA OR LODGE
PARK OR CLUB
FAIRGROUNDS OR RACE TRACK
DRIVE-IN THEATER
MILITARY INSTALLATION
FOREST RANGER STATION
OBSERVATION OR LOOKOUT TOWER
FISH HATCHERY
BENCH MARK
TRIANGULATION STATION
KEY TO COUNTIES

I-405-8(21) NW Johnson-SW Montgomery Sec. 1969
302 of Stadium Frwy. in Portland.
#7195 (Roadside improve.)

RECEIVED
SEP 2 - 1970
FOR FILING

7195

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
August 20, 1970

SUBJECT: Plants at Salmon Street Exit
Stadium Freeway

To: S. J. Barber
Design Engineer
State Highway Building
Salem

63

ATTENTION: Roy Olson

We have made a field check of the plant loss in the area covered by Mr. Loring's report of August 3, 1970. The relationship of plant loss to the original planting are as follows:

490 Irish Yew planted	71 dead	14.5%	loss
454 Armstrong Juniper planted	111 dead	25%	loss
94 Azaleas planted	11 dead	12%	loss

If the cause of plant loss is planting too deep as indicated by Mr. Loring, this is the only area on the project that this happened. This does seem a little unlikely.

Robert L. Schroeder
Metropolitan Engineer

By:

Original signed by
J. H. VERSTEEG

J. H. Versteeg
Assistant Metropolitan Engineer

JHV:pb

cc: W. D. Morgan
Robert N. Bothman

RECEIVED
AUG 21 1970
DIVISION

Routing

2 Morgan

1 Long

3 Walker

RECEIVED
AUG 17 1970
CONSTRUCTION
DIVISION

August 14, 1970

Mr. F. D. Morgan
Construction Engineer
Building

SUBJECT: Plants at Salmon Street Exit
Stadium Freeway

The laboratory report assures the fact that there are dead plants, but gives no recommendations for corrective measures.

There are many factors involved in planting. Good soil is important, as well as good drainage. In highway planting, we encounter low spots that have settled since construction and, if encountered, corrective measures are taken, or at times a change in plant material is required. Conditions like this can develop even after planting has been completed. These conditions are difficult to predict. Too much water is another factor that can alter plant growth, or plants can dry out for lack of water. Weather conditions play an important part in plant establishment. Sometimes chemical changes in the soil will affect plant growth.

The contractor is responsible for establishment of plants thru one season of growth, which is ample to note condition of plant material.

A list of plant material and sources of supply is furnished the resident engineer and the Landscape Unit. All plant material is checked at the nursery or on the job site. During the construction, plants are checked in the field for conformance to specifications, and those of poor quality are rejected. Sometimes the contractor is unable to obtain specific sizes, and after a thorough check of nurseries, price agreements are processed to accept smaller sizes.

After all contract items have been completed, an inspection, at the beginning of establishment period, is held with B.P.R. and highway personnel. At this time, any plant not conforming to specifications is rejected and replaced, if in the proper planting season, otherwise replacement is made at the end of establishment period.

A count of plants that need replacing is furnished the contractor prior to the end of establishment, and final inspection made after all replacements have been made.

8/18/70
[illegible] to
R.E. Johnson
2/41 [illegible]
per Mr Morgan
[illegible]

The above procedure of inspection was developed over a period of years with many successful projects and some failures.

There is some thought thruout the states to try for an establishment period of three years financed by the B.P.R., either included in the contract by seperate contract or by state forces.

In Texas, an experimental method of handling a planting contract was accomplished in 1967. The contract was accepted and the State immediately assumed plant establishment responsibilities. A contingent item in the project called for the transfer of funds to the State force account in the approximate amount of 20-25 percent of the contract. This was worked out on a scale of so much per plant. The expenses were approximately 20 percent of the contract amount the first year and 15 percent the second. The third year estimate is 5 percent.

The condition of the plants at Salmon Street Exit indicate poor drainage as well as some planted too deep. I will investigate the condition and make recommendations for corrective measures.

From past experience, poor plants and improperly planted material will not wait to die until after the contract is accepted.

The history of the yews on this particular contract were State furnished material and acquired with purchase of property from Doty's Nursery. They were selected in the field by the Landscape Engineer and balled and burlaped by the contractor. I have no idea how long it had been since the last root pruning.

The last count made at the end of establishment period on N.W. Johnson-S.W. Montgomery (Stadium Freeway) showed overall loss of 4.3%, which is exceedingly low.

Roy E. Olson
Landscape Engineer

vmt

61-2-3-C

FORM E-33 (REV. 10-69)

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
August 11, 1970

SUBJECT: Plants at Salmon Street Exit
Stadium Freeway

To:

F. D. Morgan
Construction Engineer

Building

Due to the high loss of the landscape planting on the Stadium Freeway, Joe Hay, Agronomist, and L. B. Loring, Pathologist for the Department of Agriculture, investigated the affected areas.

For your information and future guidance in landscaping contracts, the results of this investigation are attached.

Robert N. Bothman
Maintenance Engineer

RNB:mp
Attachment

8/13/70
Copies to
Ray Olson
R L Schroeder
per Mr Morgan

Routing
Morgan
RECEIVED
AUG 12 1970
CONSTRUCTION DIVISION
3

GPO 52475-734

Form 4042—4-65

State of Oregon
DEPARTMENT OF AGRICULTURE
Plant Division
Agriculture Building, Salem, Oregon 97310

Regarding plants at Salmon Street exit
Joe Hay
STADIUM FREEWAY

Laboratory report for:
Mr. L. E. Evans, Landscape Foreman
District Engineers Office
9200 S. E. McLoughlin Boulevard
Portland, Oregon 97202

Date August 3, 1970

From L. B. Loring, Pathologist

14½%

25%

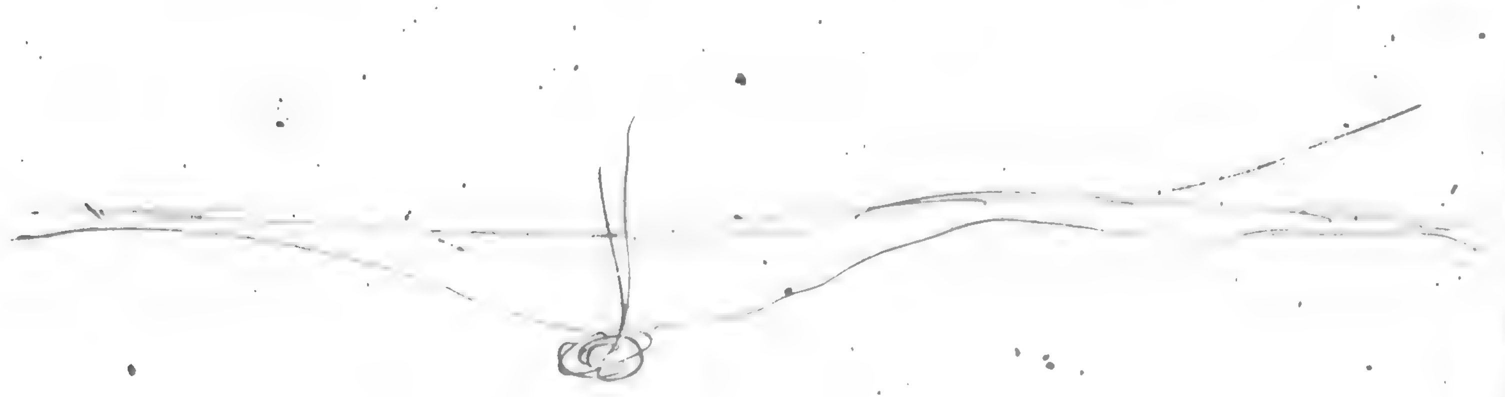
Problem Mr. Joe Hay, Agronomist at the Salem Maintenance Section, and I inspected your problem plants at the Salmon Street exit ramp in the Minnesota Street cut. In this area approximately 75% of the spreading junipers, 40% of the yews, and a high percentage of the azaleas are dead and dying beyond recovery.

12%

Findings One main problem is evident. Nearly every affected plant which we dug up and examined had been planted too deep. Unfortunately for you and other Highway personnel, loss from this type of improper planting generally is slow in becoming evident. Improperly planted shrubs and trees are normally able to maintain a healthy appearance for at least one year and beyond the one-year period which releases the planting contractor from further responsibility.

Another problem, some of which we noted, is evidence that some nursery stock, when planted, had inadequate roots. For instance the yews apparently had not been root pruned while being grown in the nursery to force short, new roots, that would be enclosed in the root bal when dug and sold.

MAINTENANCE ENGINEER
RECEIVED
AUG 4 1970
☐ BS ☐ ABS ☑ AA ☑ FILE ☐ TA



RECEIVED
MAR 11 1970
FOR FILING

I 405-8(21) 3C2

7195

March 11, 1970

Oregon State Highway Commission

Gentlemen:

Work was completed July 30, 1969, on Contract No. 7195. The contract was with Aichele Landscaping, Inc., and was for roadside improvement on the N. W. Johnson-S. W. Montgomery Section of the Stadium Freeway in Multnomah County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective March 11, 1970, and that you concur in this procedure at the Commission meeting on March 17.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
F. B. Klaboe
V. D. Wolfe
Ivan Merchant
V. E. Skoog
F. D. Morgan
L. H. Young
A. E. Johnson

srb ST

RECEIVED
MAR 12 1970

FOR FILING

I-405-8(21)312

7195

March 11, 1970

United Pacific Insurance Company
Fidelity and Surety Department
P. O. Box 1216
Tacoma, Washington 98401

Gentlemen:

Contract No. 7195 awarded to Aichele Landscaping, Inc., for roadside improvement on the N. W. Johnson-S. W. Montgomery Section of the Stadium Freeway in Multnomah County was completed on July 30, 1969, and accepted by the Highway Commission on March 11, 1970.

Final payment in the amount of $5,092.73 will be released to the contractor after March 18, 1970. The total contract amount is $254,636.35 and no work was performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fkm

cc Aichele Landscaping, Inc.
11360 S. E. Stevens Road
Portland, Oregon 97266

Frank Morgan
Ivan Marchant
V. E. Skoog
Attn: John Herr
A. E. Johnson

COPY

FEB 20 1970

FOR FILING

1859

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

I-405-8(21)302

1195

February 16, 1970

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage Street, N.E.
Salem, Oregon 97301

Contract 7195
Prefix 626-1002
FAP I-405-8(21)302

Dear Sir:

The replacement planting work under Contract No. 7195, N.W. Johnson-S.W. Montgomery Section of the Stadium Freeway in Multnomah County, was completed January 30, 1970.

We request that your office return a signed copy of this letter indicating acceptance or listing below any items or conditions which would prevent your final acceptance of the contract work.

Very truly yours,

Forrest Cooper
State Highway Engineer

By F D Morgan
F. D. Morgan
Construction Engineer

Bureau of Public Roads
Oregon Division Office Endorsement

Date 2-19-70

Conditions noted on above date:

None.

WNB:

R. E. Simpson
Division Engineer

RECEIVED
FEB 20
OFFICE OF
STATE HIGHWAY ENGINEER

BMW:fw
cc Forrest Cooper
F. D. Morgan

I-405-3(21)302
7195

C

FORM E-1 (REV. 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

	SECTION: NW Johnson - SW Montgomery	WEEK ENDING: January 30,1970
		SECTION PREFIX: 626-1002
	HIGHWAY: Stadium Freeway	COUNTY: Multnomah
NAME OF JOB: NW Johnson - SW Montgomery	KIND OF WORK: Roadside Improvement	
CONTRACTOR: Aichele Landscaping, Inc.	CONTRACT NUMBER: 7195	FEDERAL AID PROJECT NUMBER: I-405-8(21)302
DATE OF CONTRACT: January 14,1969	DATE WORK STARTED: January 20,1969	ESTIMATED COMPLETION DATE: July 30,1969 Bid Items Complete
AVERAGE FORCE ON PROJECT FOR THE WEEK: MEN: 5 SUPERVISION: 1	SPECIFIED WORK DAYS	WORK DAYS USED
	SPECIFIED CALENDAR DAYS	CALENDAR DAYS USED
PROJECT AUTHORIZATION: $ 329,395.77	SPECIFIED COMPLETION DATE: July 31,1969	PERCENT OF TIME ELAPSED: 100%
EXCLUSIVE OF ENGINEERING: 303,275.77	ENGINEERING AUTHORIZATION: $ 26,119.44	PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 100%
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: 260,491.05	ENGINEERING COST TO DATE: $ 23,434.92	PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 100%
ESTIMATED PERCENT: ~~OVERRUN~~ UNDERRUN 14.1 %	PERCENT OF AUTHORIZATION: 90 %	DATE PROJECT WAS COMPLETED: January 30,1970

Semi final submitted 10/8/69

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD	Irrigation	Planting
						100	100

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)					
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE					
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY 1					
HOURS PER SHIFT 8					

EQUIPMENT USED DURING THE WEEK:

1 truck

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY	Showers	Does Not Apply		
MONDAY	Rain			Routing Morgan
TUESDAY	Rain			RECEIV
WEDNESDAY	Overcast			
THURSDAY	Overcast			CONSTR DIV
FRIDAY	Cloudy			
SATURDAY	-			

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY	-
MONDAY Jan 26	Five laborers and one supervisor weeding throughout the project. Pruning dead wood out of planting. Stapling tree ties throughout the project.
TUESDAY Jan 27	Five laborers and one supervisor weeding throughout the project. Pruning dead wood out of planting. Stapling tree ties throughout the project.
WEDNESDAY Jan 28	Five laborers and one supervisor weeding throughout the project. Pruning dead wood out of planting. Stapling tree ties throughout the project.
THURSDAY Jan 29	No work.
FRIDAY Jan 30	No work.
SATURDAY	-

REMARKS

Weeding and cleaning up was completed Wednesday of this week. Mr. Olsen of Salem was over the project Thursday and said all corrections requested at the final inspection were completed. I informed Mr. Bryant of the BPR that the contractor had completed. Mr. Bryant accepted the project for the Bureau. Maintenance will be notified of the completion by letter.
Post semi final will be sent in some time next week.
No more weekly reports on this project.

Constr. Eng'r (2) ✓
BPR
Div. Eng'r
Landscape
Files

SIGNED James Don
James Don, Res. Eng'r
LOCATION Portland

PRIME RESIDENT SUBMIT 2 COPIES WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES

SP*F216

STATE COPY

C

Monthly transaction number
7-53

Project report number
7

Modification number
1

FO PR-2A
(REV. 10-65)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT

(PPM 21-7)

7-25-69

ate
Oregon

County
Multnomah

Project number
I-405-8(21)302

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Engineer on February 6, 1969, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 280,737	$ 311,537
Federal funds	$ 258,000.00	$ 287,400.00
Other revisions		

This modification is made for the following reasons:

To include item previously retained in program status.

All other terms and conditions of the Project Agreement will remain in full force and effect.

This modification is effective as of the 25th day of July, 1969.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Department)

By B Klabon

Assistant State Highway Engineer
(Title)

By

(Title)

By

(Title)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

By
(Division Engineer)

For: R. E. Simpson

USCOMM-DC 26364-P65

Oregon State Highway Department

Federal Aid
Project No. I-405-8(21)302

N. W. JOHNSON-S. W. MONTGOMERY SECTION OF THE STADIUM FREEWAY IN MULTNOMAH COUNTY

Revised project agreement estimate to include item previously retained in program status.

Salem, Oregon, July 11, 1969

Type Code Y003
Roadside Improvement (Sta. 396+30 to Sta. 459+00) (Contract No. 7195)

Temporary Protection and Direction of Traffic	All Required		$ 2,000.00
Furnishing and Placing Topsoil	200 cu.yd.	$4.00	800.00
Tractor with Dozer	24 hr.	20.00	480.00
Loader, Front End	14 hr.	25.00	350.00
Dump Truck	14 hr.	12.50	175.00
Furnishing and Planting Specimen Trees	112 only	150.00	16,800.00
Furnishing and Planting Evergreen Trees	129 only	12.00	1,548.00
Furnishing and Planting Deciduous Trees	204 only	8.75	1,785.00
Furnishing and Planting Evergreen Shrubs	13,850 only	3.65	50,552.50
Furnishing and Planting Deciduous Shrubs	2,760 only	2.75	7,590.00
Furnishing and Planting Rhododendrons and Azaleas	2,430 only	5.95	14,458.50
Furnishing and Planting Vines	78,900 only	0.42	33,138.00
Planting State-Furnished Oregon Grape	150 only	0.85	127.50
Planting State-Furnished Trees and Shrubs	846 only	3.50	2,961.00
Fertilizer, 22-16-8	105 cwt.	6.50	682.50
Fertilizer, 6-4-2	86 cwt.	5.00	430.00
Peat Moss	11,500 cu.ft.	0.75	8,625.00
Bark Mulch	1,200 units	25.00	30,000.00
1/2-inch Water Pipe	10,140 lin.ft.	0.44	4,461.60
3/4-inch Water Pipe	10,110 lin.ft.	0.50	5,055.00
1-inch Water Pipe	10,480 lin.ft.	0.55	5,764.00
1-1/4 inch Water Pipe	6,480 lin.ft.	0.60	3,888.00
1-1/2 inch Water Pipe	4,410 lin.ft.	0.68	2,998.80
2-inch Water Pipe	4,150 lin.ft.	0.78	3,237.00
2-1/2 inch Water Pipe	9,570 lin.ft.	1.12	10,718.40
3-inch Water Pipe	205 lin.ft.	1.95	399.75

1/2-inch Steel Water Pipe (Risers)	7,750 lin.ft.	$0.49	$ 3,797.50
1/2-inch Steel Water Pipe	1,980 lin.ft.	0.49	970.20
3/4-inch Steel Water Pipe	1,640 lin.ft.	0.55	902.00
1-inch Steel Water Pipe	3,850 lin.ft.	0.85	3,272.50
1-1/4 inch Steel Water Pipe	1,160 lin.ft.	1.08	1,252.80
1-1/2 inch Steel Water Pioe	740 lin.ft.	1.25	925.00
2-inch Steel Water Pipe	30 lin.ft.	3.00	90.00
2-1/2 inch Steel Water Pipe	430 lin.ft.	3.75	1,612.50
1-inch Gate Valves	1 only	6.00	6.00
1-1/2 inch Gate Valves	1 only	10.50	10.50
2-inch Gate Valves	10 only	15.00	150.00
2-1/2 inch Gate Valves	3 only	33.00	99.00
1/2-inch Globe Valves	2 only	15.00	30.00
3/4-inch Globe Valves	16 only	18.00	288.00
1-inch Globe Valves	6 only	23.00	138.00
1-1/4 inch Globe Valves	5 only	28.00	140.00
1-1/2 inch Globe Valves	2 only	35.00	70.00
2-inch Globe Valves	6 only	48.00	288.00
2-1/2 inch Globe Valves	1 only	110.00	110.00
1-1/4 inch Manual Section Valves	3 only	14.00	42.00
1-1/2 inch Manual Section Valves	5 only	18.00	90.00
2-inch Manual Section Valves	4 only	24.00	96.00
1-inch Automatic Section Valves	5 only	42.00	210.00
1-1/4 inch Automatic Section Valves	36 only	40.00	1,440.00
1-1/2 inch Automatic Section Valves	81 only	50.00	4,050.00
2-inch Automatic Section Valves	19 only	55.00	1,045.00
3/4-inch Quick-Coupling Hose Valves	120 only	6.25	750.00
1/2-inch Manual Drain Valves	200 only	8.25	1,650.00
2-inch Vacuum Breaker Valves	11 only	225.00	2,475.00
Shrubbery Sprinkler Heads	3,000 only	0.95	2,850.00
Strip Sprinkler Heads	80 only	1.50	120.00
Full-Circle Agricultural Rotary Sprinkler Heads	11 only	12.00	132.00
Part-Circle Agricultural Rotary Sprinkler Heads	87 only	10.50	913.50
5-Section Automatic Controllers	1 only	300.00	300.00
6-Section Automatic Controllers	1 only	350.00	350.00
10-Section Automatic Controllers	1 only	350.00	350.00
11-Section Automatic Controllers	5 only	350.00	1,750.00
12-Section Automatic Controllers	2 only	375.00	750.00
14-Section Automatic Controllers	1 only	550.00	550.00
16-Section Automatic Controllers	1 only	550.00	550.00
23-Section Automatic Controllers	1 only	550.00	550.00
2-inch Electrical Conduit	100 lin.ft.	8.00	800.00
			$ 244,991.05

ADDITIONAL ITEMS

Flagging (60% of Contractor's Cost)	All Required	$ 300.00
State Furnished Oregon Grape	All Required	225.00
Water Meter Installation	All Required	4,000.00
Water Meters	All Required	2,100.00
Water and Power	All Required	3,600.00
Drains Behind Retaining Walls (Extra Work Order #2)	All Required	28,000.00
		$ 38,225.00
	Subtotal	$ 283,216.05
	10% Engr. & Cont.	28,320.95
	Total	$ 311,537.00

Length of Project - - - - - - - - - - - 0.00 mile

SUMMARY OF FUNDS

Federal Funds	$ 287,400.00
State Funds	24,137.00
Total Cost	$ 311,537.00

State Funds for Const.: Chap. 175, Laws 1917; Chap. 31, Laws 1920;
Chap. 529, Laws 1939
State Funds for Maint.: Chap. 529, Laws 1939

Group 1-100%
Prefix 626-1002

F Approved; Budget Bureau No. 41-R2089.1

MONTHLY TRANSACTION NO. 2-17	FORM PR-2 (REV. 3-66) U.S. DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS	STATE Oregon
	FEDERAL-AID PROJECT AGREEMENT	COUNTY Multnomah
PROJECT REPORT NO. 5	*(PPM 21-7)* 2-6-69	PROJECT NO. I-405-8(21)302

The State, through its Highway Department, having complied, or hereby agreeing to comply, with the terms and conditions set forth in (1) Title 23, U.S. Code, Highways, (2) the Regulations issued pursuant thereto by the Secretary of Commerce and, (3) the policies and procedures promulgated by the Federal Highway Administrator relative to the above designated project, and the Bureau of Public Roads having authorized certain work to proceed as evidenced by the date entered opposite the specific item of work, Federal funds are obligated for the project not to exceed the amount shown herein, the balance of the estimated total cost being an obligation of the State. Such obligation of Federal funds extends only to project costs incurred by the State after the Bureau of Public Roads authorization to proceed with the project involving such costs.

PROJECT TERMINI

N. W. Johnson-S. W. Montgomery Section of the Stadium Freeway

PROJECT CLASSIFICATION OR CLASS OF WORK	EFFECTIVE DATE OF AUTHORIZATION	APPROXIMATE LENGTH *(Miles)*
HIGHWAY PLANNING		▨
PRELIMINARY ENGINEERING		
RIGHTS-OF-WAY		▨
CONSTRUCTION	12-18-68	0.00
OTHER *(Specify)*		

FUNDS Pro Rata 92.26

ESTIMATED TOTAL COST OF PROJECT	FEDERAL FUNDS
$ 280,737	$ 258,000.00

The State further stipulates that pursuant to said Title 23, Regulations, and policies and procedures, and as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth on the reverse hereof.

OREGON STATE HIGHWAY DEPARTMENT
(Official name of Highway Department)

By B Klaboe

Asst. State Highway Engineer
(Title)

By ____________________

(Title)

By ____________________

(Title)

U.S. DEPARTMENT OF COMMERCE

BUREAU OF PUBLIC ROADS

By ____________________
(Division Engineer)
R. E. Simpson

Date executed by Division Engineer 6 FEB 1969

Oregon State Highway Department

Federal-Aid
Project No. I-405-6(21)302

E.W. JOHNSON-S.W. MONTGOMERY SECTION OF THE STADIUM FREEWAY IN MULTNOMAH COUNTY

Project agreement estimate.

Salem, Oregon, January 23, 1969

Type Code Y001
Roadside Improvement (Sta. 396+30 to Sta. 459+00)(Contract No. 7195)

Temporary Protection and Direction of Traffic	All Required	$	$ 2,000.00
Furnishing and Placing Topsoil	200 cu.yd.	4.00	800.00
Tractor with Dozer	24 hr.	20.00	480.00
Loader, Front End	14 hr.	25.00	350.00
Dump Truck	14 hr.	12.50	175.00
Furnishing and Planting Specimen Trees	112 only	150.00	16,800.00
Furnishing and Planting Evergreen Trees	129 only	12.00	1,548.00
Furnishing and Planting Deciduous Trees	204 only	8.75	1,785.00
Furnishing and Planting Evergreen Shrubs	13,850 only	3.65	50,552.50
Furnishing and Planting Deciduous Shrubs	2,760 only	2.75	7,590.00
Furnishing and Planting Rhododendrons and Azaleas	2,430 only	5.95	14,458.50
Furnishing and Planting Vines	78,900 only	0.42	33,138.00
Planting State-Furnished Oregon Grape	150 only	0.85	127.50
Planting State-Furnished Trees and Shrubs	846 only	3.50	2,961.00
Fertilizer, 22-16-8	105 cwt.	6.50	682.50
Fertilizer, 6-4-2	86 cwt.	5.00	430.00
Peat Moss	11,500 cu.ft.	0.75	8,625.00
Bark Mulch	1,200 units	25.00	30,000.00
1/2-inch Water Pipe	10,140 lin.ft.	0.44	4,461.60
3/4-inch Water Pipe	10,110 lin.ft.	0.50	5,055.00
1-inch Water Pipe	10,480 lin.ft.	0.55	5,764.00
1 1/4-inch Water Pipe	6,480 lin.ft.	0.60	3,888.00
1 1/2-inch Water Pipe	4,410 lin.ft.	0.68	2,998.80
2-inch Water Pipe	4,150 lin.ft.	0.78	3,237.00
2 1/2-inch Water Pipe	9,570 lin.ft.	1.12	10,718.40
3-inch Water Pipe	205 lin.ft.	1.95	399.75

1/2-inch Steel Water Pipe (Risers)	7,750 lin.ft.	$ 0.49	$ 3,797.50
1/2-inch Steel Water Pipe	1,980 lin.ft.	0.49	970.20
3/4-inch Steel Water Pipe	1,640 lin.ft.	0.55	902.00
1-inch Steel Water Pipe	3,850 lin.ft.	0.85	3,272.50
1 1/4-inch Steel Water Pipe	1,160 lin.ft.	1.08	1,252.80
1 1/2-inch Steel Water Pipe	740 lin.ft.	1.25	925.00
2-inch Steel Water Pipe	30 lin.ft.	3.00	90.00
2 1/2-inch Steel Water Pipe	430 lin.ft.	3.75	1,612.50
1-inch Gate Valves	1 only	6.00	6.00
1 1/2-inch Gate Valves	1 only	10.50	10.50
2-inch Gate Valves	10 only	15.00	150.00
2 1/2-inch Gate Valves	3 only	33.00	99.00
1/2-inch Globe Valves	2 only	15.00	30.00
3/4-inch Globe Valves	16 only	18.00	288.00
1-inch Globe Valves	6 only	23.00	138.00
1 1/4-inch Globe Valves	5 only	28.00	140.00
1 1/2-inch Globe Valves	2 only	35.00	70.00
2-inch Globe Valves	6 only	48.00	288.00
2 1/2-inch Globe Valves	1 only	110.00	110.00
1 1/4-inch Manual Section Valves	3 only	14.00	42.00
1 1/2-inch Manual Section Valves	5 only	18.00	90.00
2-inch Manual Section Valves	4 only	24.00	96.00
1-inch Automatic Section Valves	5 only	42.00	210.00
1 1/4-inch Automatic Section Valves	36 only	40.00	1,440.00
1 1/2-inch Automatic Section Valves	81 only	50.00	4,050.00
2-inch Automatic Section Valves	19 only	55.00	1,045.00
3/4-inch Quick-Coupling Hose Valves	120 only	6.25	750.00
1/2-inch Manual Drain Valves	200 only	8.25	1,650.00
2-inch Vacuum Breaker Valves	11 only	225.00	2,475.00
Shrubbery Sprinkler Heads	3,000 only	0.95	2,850.00
Strip Sprinkler Heads	80 only	1.50	120.00
Full-Circle Agricultural Rotary Sprinkler Heads	11 only	12.00	132.00
Part-Circle Agricultural Rotary Sprinkler Heads	87 only	10.50	913.50
5-Section Automatic Controllers	1 only	300.00	300.00
6-Section Automatic Controllers	1 only	350.00	350.00
10-Section Automatic Controllers	1 only	350.00	350.00
11-Section Automatic Controllers	5 only	350.00	1,750.00
12-Section Automatic Controllers	2 only	375.00	750.00
14-Section Automatic Controllers	1 only	550.00	550.00
16-Section Automatic Controllers	1 only	550.00	550.00
23-Section Automatic Controllers	1 only	550.00	550.00
2-inch Electrical Conduit	100 lin.ft.	8.00	800.00
			$244,991.05

Additional Items

Flagging (60% of Contractor's Cost)	All Required	$	$ 300.00
State Furnished Oregon Grape	All Required		225.00
Water Meter Installation	All Required		4,000.00
Water Meters	All Required		2,100.00
Water and Power	All Required		3,600.00
			$ 10,225.00
	Subtotal		$255,216.05
	10% Engr. & Cont.		25,520.95
	Total		$280,737.00

Length of Project - - - - - 0.00 Mile

Retained in Program Status

Drains Behind Retaining Walls by Extra Work	All Required	$ 35,000.00
	Subtotal	$ 35,000.00
	10% Engr. & Cont.	3,500.00
	Total	$ 38,500.00

Summary of Funds

Description	Total Cost	Federal Funds	State Funds
Roadside Improvement	$280,737.00	$258,000.00	$22,737.00
Retained in Program	38,500.00	35,000.00	3,500.00
Total	$319,237.00	$293,000.00	$26,237.00

State Funds for Const.: Chap. 175, laws 1917; Chap. 31, laws 1920,
Chap. 529, laws 1939.
State Funds for Maint.: Chap. 529, laws 1939.

Form E-208—5M

RECEIVED
APR 1969
OFFICE OF
STATE HIGHWAY ENGINEER

I-405-8(21)302
7195

G-1P

OREGON STATE HIGHWAY DEPARTMENT

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

Dist. Engineer
U.S. Bureau of Public Roads

Project Name NW Johnson-SW Montgomery
Date March 25 1969
Highway Stadium Freeway
Contract No. 7195
County Multnomah
Prefix 626-1002
Contractor Aichele Landscaping, Inc.
F. A. Project No. I-405-8(21)302
Address 11360 SE Stevens Road, Portland, Oregon 97266
Order No. 2

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done: Construct special type D inlets, type G inlet, furnish and place 6-inch steel drain pipe, 8-inch metal drain pipe, 12-inch perf. metal drain pipe, special backfill, jute mesh.

1. Maximum equipment rental rates allowed as per AGC - State agreement.

2. Percent allowed contractor is in accordance with the executed contract for this project.

Location by station numbers: All locations are approximate.

"14th B Off" 25 ft. Lt. 413+95
72 ft. Lt. "L"403+11
Back of wall W-10
" " " E-14
" " " E-13

Back of Wall E-12
" " " W-8
" " " E-12
" " " E-17
" " " E-16

Back of wall W-14
" " " W-11
" " " E-15
40 ft. Lt. "CN"5+75
75 ft. Lt. "L"449+35

Estimate of quantities and cost:

Materials	$ 8,000.00
Labor	13,000.00
Equipment	7,000.00
Total	$28,000.00

Includes profit.

NOTE
F. B. W.

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")

To provide drainage in ditches back of the walls, carry water into the existing sewer system. Work has not been started. Standard Specifications to apply.

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization $329,395.21
Present estimate of project cost, including $28,000.00 for work under this order $310,250.74
Expected under-run XXXXXXXX amount $ 19,144.47
Expected under-run XXXXXXXX per cent 5.8%

Space to right of this line is for use of Salem Office

Submitted by: /s/ James Don
Resident Engineer

Approval Recommended: /s/ John A. Bond
for Construction Engineer XX

Approval Recommended: /s/ J. H. Versteeg
[illegible]

Approved: /s/ F. D. Morgan 4-

C

RECEIVED
JAN 20 1969

I-405-8(21)302
7195

January 20, 1969

Aichele Landscaping, Inc.
11360 S.E. Stevens Road
Portland, Oregon 97266

Gentlemen:

Enclosed are three copies of Contract No. 7195 for $244,991.05 awarded to you by the State Highway Commission on January 14, 1969. This contract is for roadside improvement on the N.W. Johnson-S.W. Montgomery Section of the Stadium Freeway in Multnomah County.

Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The completion date on this contract is July 31, 1969.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Enclosures
bc: Frank Morgan
D. J. Barbee
I. D. Merchant
C. D. Matthis (SIAC)
L. W. Rulien
James Don
~~Mark Astrup~~
Roy Olson

RECEIVED
DEC 23 1968

FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS

FOR FILING

12-18-68

LETTER OF APPROVAL AND/OR AUTHORIZATION

PROJECT: I-405-8(21)302

SECTION: N.W. JOHNSON - S.W. MONTGOMERY

WORK : ROADSIDE IMPROVEMENT

COUNTY : MULTNOMAH

TO: MR. FORREST COOPER
STATE HIGHWAY ENGINEER
SALEM, OREGON

I 405-8(21)302 Klaboe

2195

FROM: R. E. SIMPSON, DIVISION ENGINEER
SALEM, OREGON

DATE PS&E APPROVED: DECEMBER 18, 1968

DATE AUTHORIZED: DECEMBER 18, 1968

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW:

☒ CONSTRUCTION - ADVERTISE FOR BIDS.

○ RIGHT OF WAY.

☒ OTHER (SPECIFY). AFTER CONCURRANCE IN AWARD YOU MAY PROCEED WITH FLAGGING @$300.00 ---WATER METERS INCLUDING INSTALLATION @ $6,100.00 ----STATE FURNISHED OREGON GRAPE @ $225.00 AND WATER AND POWER @ $3,600.00.

○ UTILITY ADJUSTMENT.

○ RIGHT OF WAY INCIDENTALS AND RELOCATION PAYMENTS.

REMARKS AND LIMITS OF AUTHORITY:

MR. YOUNG'S DECEMBER 12, 1968 REQUEST AND CERTIFYING STATEMENTS ARE ACCEPTED. PS&E DOCUMENTS FOR SUBJECT PROJECT HAVE BEEN REVIEWED AND ARE HEREBY APPROVED.

A SIGNED COPY OF THE TITLE SHEET IS RETURNED HEREWITH.

NOTED
F. B. KLABOE

RECEIVED
DEC 23 1968
OFFICE OF
STATE HIGHWAY ENGINEER

OFFICE USE

REFERRED TO Wlaboe
[illegible] Hwy. Eng.
12-23-68

DATE: 12-18-68

SIGNATURE OF APPROVING OFFICIAL: S L Green For R. E. SIMPSON

TITLE: DIVISION ENGINEER

RECEIVED
DEC 13 1968

UNITED STATES GOVERNMENT

Memorandum

I-405-8(21)302
2175

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
477 Cottage Street, NE
Salem, Oregon 97301

Klaboe

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

DATE: December 10, 1968

In reply refer to: 08-35.EC/710.11

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Federal-aid Interstate Program

Mr. Young's August 28, November 1 and November 13, 1968 letters requested the inclusion of six Interstate Items in this program. Until today we have been restricted from processing these program items pending resolution of the requirements of Mr. Bridwell's August 30, 1968 letter. Therefore, these Stage 2, Construction Phase projects are approved effective today:

Item	Project	Location	Work
549	I-405-8(21)302	NW Johnson-SW Montgomery	Landscaping
550	I-80N-6(35)228	Deadman's Pass Rest Area	Drill wells
551	I-80N-6(36)268	Ladd Canyon Rest Area	Drill wells
552	I-80N-5(33)187	Stanfield-Pendleton Sec.	Guardrail & cattle guards
553	I-80N-6(39)233	Emigrant Park-Glover Sec.	Cattle guards
554	I-5-5(44)285	E. Port. Frwy-Wilsonville Section	Grade, pave 3 structures

It is understood that no improvements with regard to right of way are involved on the above projects, therefore the requirements of IM 80-1-68 are satisfied.

On Items 550 and 551, I-80N-6(35)228 and I-80N-6(36)268 the drilling of wells is recognized as Stage Construction for future rest areas.

On Items 552 and 553, I-80N-5(33)187 and I-80N-6(39)233 the individual locations of the guardrail and cattle guards will be approved on the basis of the data accompanying the P.S. & E.

12-12-68
REFERRED TO
Young
Hwy. Engr.

(more)

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

On Item 554, I-5-5(44)285 E. Portland Freeway-Wilsonville Section, you are authorized to proceed with utility preparatory work effective today. The credit for Interstate funds involved in the existing structures will be approved at the P.S. & E. Stage.

This action provides for improvement on 4.48 miles of Interstate Highway at a total estimated cost of $5,474,000 of which $5,085,600 is reserved as Federal-aid Interstate Program funds.

RECEIVED
DEC 12 1968
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
NOV 25 1968
FOR FILING

OK

**OREGON STATE
HIGHWAY DEPARTMENT**

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

Recommended for approval, subject to comments noted
☐ Area Engineer ......
☐ Bridge Engineer......
☐ Right-of-Way ......
☐ Planning ......
....
Date District Engineer
Return To

November 13, 1968

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage Street, N. E.
Salem, Oregon 97310

Dear Sir:

Re: State-furnished Plants for N. W. Johnson-S. W. Montgomery Streets, Stadium Freeway, Roadside Improvement

Under the real estate option with Paul E. Doty and Vada C. Lewis, File No. 42704, the State will acquire a quantity of trees and shrubs, some of which are proposed to be used on this project.

Your concurrence is requested to permit 96 trees and 750 shrubs of the above acquisition to be included in the proposed contract. The bid item will include the digging, balling, transporting and planting of these plants which will be State-furnished to the contractor without cost.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

F. B. Klaboe
Assistant State Highway Engineer

11-25-68

REFERRED TO
Young
By Asst. State Hwy. Engr.

APPROVED DATE NOV 20 1968
R. E. Simpson, Division Engr.
Oregon Div., Bureau of Public Rds.
By Title [illegible] Engineer

RECEIVED
NOV 21 1968
OFFICE OF
STATE HIGHWAY ENGINEER

UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

477 Cottage St. NE. - Salem OR 97301

RECEIVED
OCT 1968
FOR FILING

I-405-8(13)302
7195

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

DATE: October 15, 1968

In reply refer to: 08-35-EC

FROM : for R. E. Simpson, Division Engineer
Salem, Oregon

G L Green

SUBJECT: Oregon Project I-405-8(13)302
NW Johnson-SW Montgomery

The proposal for purchase of Oregon Grape and issuance of a price agreement for planting to Gibbons and Reed presented by Mr. Young's October 9 letter is satisfactory. Our finding in the public interest for I-405-8(21)302 is extended to this project for the purchase of these plants.

This memorandum may be used for the tentative advance approval for the price agreement.

10-18-68
Young
Morgan
Astrop

RECEIVED
OCT 18 1968
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

RECEIVED
SEP 1 9 1968

FOR FILING

UNITED STATES GOVERNMENT

Memorandum

I-405-8(21)302
7195

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
477 Cottage St. NE. - Salem OR 97301

DATE: September 17, 1968

In reply refer to: 08-35-DA

TO Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM for R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Project I-405-8(21)302
Northwest Johnson - Montgomery Section
Stadium Freeway Roadside Improvement
Sprinkling System

Mr. Morgan's letter of September 6, 1967 (signed by Mr. Astrup) indicates problems of excessive maintenance in areas next to street curbs and walks where riser pipes are used for irrigation. The letter also requests approval of an automatic sprinkling system in this area for safety and water demand reasons.

We agree in this instance that these items are justified and concur in your request.

9-19-68

REFERRED TO
Morgan - Astrup - Young
BY ASST. STATE HWY. ENGR

RECEIVED
SEP 1 9 1968
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

MONTHLY TRANSACTION NO.

DATE SUBMITTED TO W. O.

FORM PR-1
(REV. 4-61)

FEDERAL-AID

CARD 2	REPORT NUMBER 1 (19) (20)	PROJECT LOCATION *(45 typewriter spaces)* I-405 N. W. Johnson to S. W. Montgomery (Portland) 21 65	**ADT**	PRESENT 50,000	FUTURE 80,000 (66) (70)

CARD 3	CHARACTER OF PROPOSED WORK *(35 typewriter spaces)* Landscaping 28 62	NATL. FOREST (63) (65)	FH ROUTE NO. (66) (68)	SUPV AGCY (69)	DA CLASSIF. (70)	DA AREA (71)	EMERG. YR. (72) (73)	PL. AU (74)

CARD 4	CLASS OF FEDERAL FUNDS Interstate	COUNTY NAME	
	NAME OF URBAN AREA 17-31 Portland	ROUTE NO. I	FEDERAL-A I-405

CARD 5	LINE NO.	CHANGE CODE	PROJECT CODE	WORK CLASS	WORK TYPE	STEP	TERMINI *(Full description)*	MILES	ESTIMATED PROJECT TOTAL ESTIMATED COST	FEDERAL FUNDS
1	(14-15)	(16	41	42	43 46	53		(54) (58)	(59) (66)	(67)
5					**PE**		I-405 N. W. Johnson to S. W. Montgomery (Portland)			
5					**ROW**					
5					**CONST** (CODE)			1.19	300,000	276,000

CARD 1	CODE 1	PREPARED BY	PROJECT TOTALS	1.19	300,000	276,000
1	14	PROGRAM APPROVAL DATES			(16) (23)	(24)

Oregon Grape pla
by BPR letter July
or sooner if prac

7195

Budget Bureau No. 41-R2067; Approval Expires February 28, 1966

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

omery 65	**ADT**	PRESENT 50,000	FUTURE 80,000 (66) (70)	YEAR 88 (71) (72)	REGION 08	STATE NAME Oregon	STATE CODE 35 (2) (3)	APPN CODE 042 (4) (9)	ITEM NO. 549 (14) (18)

UTE (68)	SUPV AGCY (69)	DA CLASSIF. (70)	DA AREA (71)	EMERG. YR. (72) (73)	PL. AUTH YR (74) (75)	PROJECT NUMBER PREFIX LETTER(S) I- 14 23	NUMBER 405-8 7	SEQ. NO. (21) 13	I. Projects Only POST MI. 302 (24) (26)	DESIG. 27

COUNTY NAME Multnomah	CODE 051 (14) (16)			PROGRAM STAGE ☐ 1 OR ☒ 2
ROUTE NO. I	FEDERAL-AID I-405 (32)	STATE (36)	U.S. (37) I-405 (41)	

		ESTIMATED PROJECT COST BY PHASES				
	MILES (54) (58)	TOTAL ESTIMATED COST (59) (66)	FEDERAL FUNDS (67) (76)	STATE FUNDS	OTHER FUNDS	CHARACTER OF PROPOSED WORK *(Full description)*
on to						Planting trees, shrubs and vines, placing topsoil, and irrigation system.
	1.19	300,000	276,000	24,000		ROW - 250' Normal; Access Control - full; Parking Restrictions - Complete.
OJECT TALS	1.19 (16)	300,000 (23)	276,000 (24) (33)	24,000		

REMARKS Additional Data: Item 427, Project I-405-8(13)302. Oregon Grape plants to be furnished contractor by State as approved by BPR letter July 29, 1968, participation to be established at PS&E stage or sooner if practical.

RECEIVED
AUG 1 - 1968

Form FH-121 (4-67)

FOR FILING

UNITED STATES GOVERNMENT

Memorandum

I-405-8(21)302

7195

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
477 Cottage St. NE. - Salem OR 97301

DATE: July 29, 1968

In reply refer to: 08-35-EC

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM : For R. E. Simpson, Division Engineer
Salem, Oregon

Klaboe

SUBJECT: Oregon Project I-405-8( )302
NW Johnson - SW Montgomery
Landscaping

We concur with Mr. Young's July 26 finding that advance purchase of Oregon Grape for this future project is in the public interest. Federal participation shall be governed by PPM 21-6.3, paragraph 14, and our review of the bids obtained.

8-1-68

REFERRED TO
Young
By Asst State Hwy. Engr

NOTED
F. B. KLABOE

RECEIVED
JUL 30 1968
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

RECEIVED
JUL 26 1968

FOR FILING

I-405-8(31)302

7195

July 26, 1968

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage St., N. E.
Salem, Oregon 97301

Project I-405-8(-)302
N.W. Johnson-S.W. Montgomery
Stadium Freeway
Portland, Oregon

Dear Sir:

A problem has been encountered in the availability of suitable plants for use in the concrete median barrier at the subject location. The compact form of Oregon grape is pre-eminently suited to growing in this difficult location, but exhaustive search discloses it to be in short supply.

Sufficient quantities are available now for project needs. It is extremely doubtful that the required number of plants will be available this fall. The project is scheduled for the October letting. Consequently it will be in the State's and public's interest to purchase our requirements now and hold for contract use. Approximately 2,000 compact Oregon grape plants will be required. Based on current wholesale prices, the average cost should not exceed $2.50 each, a total of $5,000.

The plan is to purchase the plants through bids solicited by the State Department of Finance and Administration. They would be furnished the contractor without cost, requiring a bid item of "Planting State Furnished Shrubs".

Advance approval to use State-furnished material on this project is requested for the above reasons. Amount of Federal participation is to be the supplier's bid price F.O.B. job site subsequent to incorporation in the project with our normal establishment period.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

L. H. Young
Office Engineer

DAR:jb

cc: F. B. Klaboe
Mark H. Astrup
C. G. Swenson
R. N. Chase

RECEIVED
FORM E-20X—50M—7-58

Const
Proj
Landscape

SP*23811-734

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
April 17, 1968

SUBJECT: Fence Installation
NW Johnson-SW Montgomery Section
Stadium Freeway

To: Mr. A. E. Johnson
Metropolitan Engineer
Portland

In considering the landscaping of the subject section, two changes have been discussed by Mr. Astrup with Mr. Benedict and Messrs. Brooks and Schell of the Bureau of Public Roads to improve the appearance of the project.

The first would change the height of the fence from six to five feet to reduce its prominence in the plantings; the second would eliminate the fence in the median island between the southbound "L" Line and the "NC" Line. In lieu thereof a dense planting of barberry shrubs which will provide an effective barrier will be used. Both proposals have been tentatively approved by Bureau officials.

It is therefore recommended that necessary action to effect these changes be initiated.

NOTED
F.B. KLABOE

F. D. Morgan
F. D. Morgan
Construction Engineer

cc: F. B. Klaboe ✓
Mark Astrup
Gordon Brooks, BPR

RECEIVED
[illegible]
OFFICE OF
[illegible] HIGHWAY ENGINEER

I-80N-5(33) Stanfield Jct.-Pendleton & 1969
187 Emigrant Park-Meacham Sections,
#7196 Old Ore. Trail (guardrails)

RECEIVED
OCT 29 1971
FOR FILING

I-80N-5(33) 197
7196

October 27, 1971

Smart and Bartsch
Attorneys at Law
419 N. W. 23rd Avenue
Portland, Oregon 97210

Attention: Duane A. Bartsch

Gentlemen:

Thank you for your letter of October 8 on behalf of Rose City Ironcraft Shop, Inc., concerning their claim against Leam, Irving and Company in the amount of $3,344.44 plus interest.

Your letter states this is in reference to the Leam, Irving and Company Contract No. 7196 for guardrail and cattle guards on the Stanfield Junction-Pendleton and Emigrant Park-Meacham Sections of the Old Oregon Trail in Umatilla County.

You mention that an action was filed in the Circuit Court for Multnomah County after the claim was filed and a judgment was recovered by Rose City Ironcraft against Leam, Irving and Company. You state this judgment has now been satisfied.

This information is being recorded in our records and we will advise the surety and principal contractor of the receipt of your letter.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc Leam, Irving & Co.
Reliance Ins. Co.
Commission

CWH:fkn

NOTED ON CARD
10-27-71
fkn

SMART & BARTSCH
ATTORNEYS AT LAW
419 N. W. 23RD AVENUE
PORTLAND, OREGON 97210

LAWRENCE V. SMART, JR.
DUANE A. BARTSCH

TELEPHONE
226-3755

October 8, 1971

Oregon State Highway Department
Highway Building
Salem, Oregon 97310

Attention: Floyd Query, Secretary

Gentlemen:

As I have previously advised you, we represent Rose City Ironcraft Shop, Inc. Rose City Ironcraft Shop had put in a notice of claim against Laam-Irving and Company on contract No. 7196. Thereafter, an action was filed in the Circuit Court for the County of Multnomah. A judgment was recovered by Rose City Ironcraft Shop, Inc. against Laam-Irving and Company and this judgment has now been satisfied by said company.

Thank you for your cooperation in this matter.

Very truly yours,

SMART & BARTSCH

Duane A. Bartsch

Duane A. Bartsch

DAB:nje

NOTED
FLOYD QUERY

RECEIVED
OCT 11 [illegible]
OREGON
STATE HIGHWAY COMMISSION

NOTED
C. W. HEAD

RECEIVED
FEB 5 - 1970
FOR FILING

I-80N-5(23)187

7196

February 5, 1970

Smart & Bartsch
Attorneys at Law
419 N.W. 23rd Avenue
Portland, Oregon 97210

Attention: Duane A. Bartsch

Gentlemen:

As requested in your letter of February 4, we are attaching a certified copy of Contract No. 7196 awarded to Laam-Irving & Company.

This contract was completed on June 20, 1969, and was accepted by the State Highway Commission on September 4, 1969.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Att.

SMART & BARTSCH
ATTORNEYS AT LAW
419 N. W. 23RD AVENUE
PORTLAND, OREGON 97210

LAWRENCE V. SMART, JR.
DUANE A. BARTSCH

TELEPHONE
226-3755

February 4, 1970

Mr. Floyd Query, Secretary
Oregon State Highway Commission
Highway Building
Salem, Oregon 97310

Dear Sir:

Please be advised that we represent Rose City Ironcraft Shop, Inc. Rose City Ironcraft Shop, Inc. has supplied certain labor and materials for Laam, Irving & Company under their contract with you bearing number 7196. I am enclosing herewith an affidavit in compliance with ORS 279.515. Will you please furnish to the undersigned a certified copy of Contract No. 7196 and the performance bond of the Reliance Insurance Company covering this contract. X

Will you also advise the date of the acceptance of the work by the affirmative action of the Highway Commission. X

Very truly yours,

SMART & BARTSCH

Duane A. Bartsch

Duane A. Bartsch

DAB:klz

Enclosure

Carol
please get copy
7G

RECE[illegible]
STATE HIGHWAY [illegible]

NOTED
FLOYD QUERY

AFFIDAVIT

STATE OF OREGON)
) ss:
County of Multnomah)

I, Robert J. Dressler, being first duly sworn, depose and say:

That I am the President of Rose City Ironcraft Shop, Inc., whose principal place of business is at 4841 S. W. Macadam Avenue, Portland, Oregon 97201.

That Rose City Ironcraft Shop, Inc. performed a contract for work and materials for Laam, Irving & Company, which was a subcontract under their contract no. 7196 with the State of Oregon. That said contract was for labor and materials and said labor and materials were provided for Laam, Irving & Company on contract no. 7196 with the State of Oregon, Highway Division.

That Rose City Ironcraft Shop, Inc. has not been paid the full amount on their contract and there remains due and owing the sum of $3,333.34 plus interest from August 1, 1969.

That this affidavit is made for the purpose of receiving a certified copy of the contract and bond of the Laam, Irving & Company with the Oregon State Highway Division for contract no. 7196.

ROSE CITY IRONCRAFT SHOP, INC.

By: ____________________
President

Subscribed and sworn to before me this 3rd day of ~~January~~ FEBRUARY, 1970.

____
Notary Public for Oregon
My Commission Expires: July 2, 1971

RECEIVED
JAN 8 - 1970

4444

FILED
JAN 0 2 1970
CLAY MYERS
SECRETARY OF STATE

RECEIVED
JAN 2 2 05 PM '70
CLAY MYERS
SECRETARY OF STATE

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

7196

December 31, 1969

Rose City Ironcraft Shop, Inc.
4841 S. W. Macadam Avenue
Portland, Oregon 97201

Attention: Robert J. Dressler
President

Gentlemen:

This is to acknowledge receipt of a copy of your letter dated December 26, 1969, to Laam, Irving and Company which states that they owe you for cattleguards in the amount of $3,344.44.

From the description given in your letter, this appears to be in reference to the Laam, Irving and Company Contract No. 7196 for guardrail and cattleguards on the Stanfield Junction-Pendleton and Emigrant Park-Meacham Sections of the Old Oregon Trail in Umatilla County.

The Reliance Insurance Company furnished the performance bond on this contract which is given to assure completion of the contract and payment of all bills incurred in it. We will advise the surety of the receipt of this claim letter and we will also forward it to the Secretary of State for filing.

Please notify this office when your claim has been paid.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

RECEIVED
JAN
STATE HIGHWAY COMMISSION

cc Laam, Irving & Co.
Reliance Insurance Company
Hon. Clay Myers - Please acknowledge receipt of the attached claim on the enclosed copy of this letter.

NOTED
1-6-70 SR

Rose City Ironcraft Shop, Inc.

Ornamental Railings, Gates, Fences, Grilles
Pipe Rail, Miscellaneous, Metal Fabrication, etc.
4841 S. W. Macadam Avenue Phone 223-2111
PORTLAND, OREGON 97201

December 26, 1969

Re: Stanfield Junction - Pendleton
Contract No. 7196 - Cattleguards

Laam, Irving & Company
P. O. Box 258
Gladstone, Oregon 97027

Gentlemen:

In reference to your letter of December 10th, we wish to state the following:

#1 Our invoice #03178, for additional shipping charges, is legitimate. We were instructed to ship partial shipments which necessitated extra trips. If you had asked us to ship them one at a time, would we have been expected to cover those charges?

#2 Our invoice #03160, Mr. Coiteux specifically ordered these by phone. He stated that some were used for wedges and they lost some out of the truck. He even asked how much they would cost. How picayunish can you get?

#3 Until we have a payment from Mr. Coiteux for our invoices we will continue to bill you as per his orders.

In reference to your letter dated July 30th, you state that it is completely our fault that 12 days liquidated damages were assessed to your firm. This cannot be true because of the following reasons:

1. Six weeks transpired between the time of the original submission of our shop drawings on January 22nd, until they were approved on March 5th. We made a minor change in the design--purely with the intent of facilitating installation--but Mr. Coiteux did not want to do any field welding, so the drawings were resubmitted. This delay cost about three weeks.

2. When we originally quoted and gave you indications for delivering the cattleguards there was to be only one [illegible] orization there was no extra time allotted to us for this. In light of the rapidity with which the decision was made for us to do the painting (3 coats) -- I'm sure it was to your financial advantage.

3. It seems all Mr. Coiteux's troubles are our fault. All his delays are attributed to us. Does this seem logical? Not to us, by any means.

4. No where by written or implied consent were we a party to an agreement whereby we could be charged for liquidated damages.

Now, in answer to the allegations by Mr. Coiteux, in which you concur:

1. True, the first 13 units were drilled wrong. This is directly Mr. Coiteux's fault, since he did not furnish us any drawings showing the design and layout of the forms. Beyond that, his acceptance of this many proves that he thought they were right. If, instead of beating on them and bending bolts he would have checked with us immediately, these difficulties could have been overcome. As soon as we were made aware of the problem, we were on the jobsite within 12 hours to help correct the situation.

2. There would have been no problems of formed channels projecting beyond the splicing point if Mr. Coiteux would not have begun reversing the panels to fit the bolt holes. This is attributable to No. 1, above.

3. If the paint application was as bad as he states, then there shouldn't have been any paint on them when they arrived. In any case, we heard nothing averse from the State Highway Dept. about this. We will have to judge his statement on that basis.

4. Mr. Coiteux said he did not want the end pieces until toward the end of the job, since he wanted to put most, if not all, of the cattleguards in place and get rid of his heavy equipment. We could have had them done before we started the cattleguards, since there was no problem with procurement.

5. The biggest item on Mr. Coiteux's list relates to the extreme camber built into the cattleguards. Mr. Coiteux, himself picked up the first load and we discussed this problem with him, at that time. He stated that there was no problem, he could draw them down with the anchor bolts. If there had been any indications at the time or if he had informed us later, after the first couple of installations we would have taken steps to eliminate all or most of it.

His acceptance of the shipments makes him responsible.

6. Our detailer did error in the dimension of the end panels. These drawings, and we had presumed at least the overall dimensions, had been checked by both your firm, Mr. Coiteux and the State of Oregon. No one caught it until they were on the job. We believe our share of this particular problem should be shared by you and Mr. Coiteux.

It seems the overriding reasons for the problems that developed on this job were the lack of personal supervision by your firm and Mr. Coiteux's incompetence to plan and oversee this type of project. You have overlooked these and directed all blame toward us. We will not tolerate this.

There are some more considerations involved, but we have gone into enough detail and presented enough facts to prove our point.

After much consideration, we have come to this decision:

Our last invoice to you was dated, June 30, 1969.

Our invoice to Mr. Coiteux in the amount of $268.00 was dated March 21, 1969.

Balance owing both firms:	$3,437.93
We allow deduction: 1/3 of $313.76 (as per #6 above)	- 104.59
	$3,333.34
8% Interest since August 1, 1969	+ 111.10
BALANCE DUE!	$3,344.44

If this amount is not paid in full by January 5th, 1970 we will give this account to Dun & Bradstreet &/or our attorney's for collection.

Very truly yours,

ROSE CITY IRONCRAFT SHOP, Inc.

Robert J. Dressler

Robert J. Dressler, President

RJD:jd
cc: CSMD
Kahn

RECEIVED
DEC 24 1969
FOR FILING

I 80N-5(33) 187
7196

3g

(6)

November 26, 1969

Lamm, Irving and Company
135 E. Hereford Street
Gladstone, Oregon 97027

Gentlemen:

The State Highway Commission at its meeting on November 18, 1969, considered your request for a 12-calendar day extension on Contract No. 7196 for guardrail and cattle guards on the Stanfield Junction-Pendleton and Emigrant Park-Meacham Sections on the Old Oregon Trail in Umatilla County.

Careful consideration was given to the reason you submitted. However, in light of the available facts and the provisions of the contract, the Commission denied your request.

If there are pertinent facts which have not yet been considered, you should contact the Resident Engineer, the Division Engineer, or the Construction Engineer in the Salem Office.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By
C. W. Head, Assistant Secretary

cr

bc: F. D. Morgan
V. E. Skoog
H. S. Coulter
W. M. Ferguson
Bureau of Public Roads

FORM E-30 (12-67)

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
October 15, 1969

SUBJECT: Stanfield Jct.-Pendleton and
Emigrant Park-Meacham Sections
Contract No. 7196

To: Mr. F. B. Klaboe
Assistant State Highway Engineer
BUILDING

Laam-Irving Company requests a 12-calendar workday time extension because of alleged delay beyond their control in the fabrication and delivery of the steel cattle guards. Bids were opened on this project January 9 and it covered the installation of 13,650 feet of guardrail and 23 cattle guards. Time was set up on a calendar workday basis, so the day count did not start until March 1. One hundred (100) days were allowed which had elapsed on June 8.

The contractor cites that the last of the cattle guards were not delivered until June 2. We find that delivery started on April 24. The project was considered complete on June 20 with 12 days liquidated damages accrued.

We do not believe the nature of the cattle guard fabrication and the materials involved should make it a particularly scarce commodity or require the lead time associated with some strategic products these days. Presumably, the contractor could have protected himself for the late delivery from his fabricator. The contract items on the project actually underran 4 percent. Engineering overran 13 percent.

We recommend that the request be denied. The 12 days liquidated damages amount to $1,200. This is a Federal-aid Interstate project. A rough draft letter to the Highway Commission is enclosed.

F. D. Morgan
Construction Engineer

By John A. Bond
John A. Bond
Construction Administration Engineer

JAB:fw
Enc.
cc V. L. Gallagher

RECEIVED
OCT 17 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 7196 Contractor Laam-Irving and Company

Highway Old Oregon Trail

Section Stanfield Jct.-Pendleton & Emigrant Park-Meacham

Kind of Work Guard Rail and Cattleguards

It is recommended that the request for increase in the number of workdays within which to complete said contract be **DENIED** or **GRANTED**. The reasons for such recommendation are as follows:

DENIED.

Recommended for Approval:

Division Engineer

for Construction Engineer ~~or Bridge Engineer~~

Assistant State Highway Engineer

Contract No. 7196

Project designation I-80N-5(33)187 State-Federal

Date awarded 1/14/69

Work started 3/25/69

Per cent completed 100% 6-20-69 Date

No. of Workdays Allowed 100

No. of Workdays Used 112

No. of Added Workdays Requested 12

State Printing 37920

E--330 (Rev.)—6M—6-60

OREGON STATE HIGHWAY COMMISSION

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon

Date September 4, 1969

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from 100 days to 112 days, within which to complete our Contract No. 7196, without the assessment of liquidated damages. The said contract is described as follows: Stanfield Jct.-Pendleton and Emigrant Park-Meacham Sections, Old Oregon Trail, Umatilla County

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows:

5/4/69 to 6/2/69 - 26 days - Delay beyond our control in receipt of cattleguards. (See attached)

Respectfully submitted,

LAAM, IRVING & COMPANY
Contractor

By James B. Irving

CONSENT OF SURETY

Date September 5, 1969

We, RELIANCE INSURANCE COMPANY, as surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

Gladys I. Proux
Gladys I. Proux Attorney-in-fact

(SEAL)

Resident Agent

RECEIVED
SEP 10 1969
W. C. FERGUSON
RESIDENT ENGINEER

Attachment to: September 4, 1969

Contractors Request for Increase in Number of Workdays to Complete Construction Contract (OSHD Form No. E-320)

Reference: Stanfield Jct.-Pendleton, et al, Contract 7196

At the time our proposal was submitted Rose City Ironcraft Shop, Inc., Portland, Oregon, the cattleguard fabricator, indicated delivery of cattleguards would be completed in 60 days after receipt of approved drawings. Their estimate was based in turn on commitments received from their suppliers.

Approved drawings were received March 4, 1969 making the final delivery date May 4, 1969. Final delivery was not received till June 2, 1969. This delay was caused in part by failure of the fabricator's suppliers to make timely delivery of the major component part of the cattleguard.

Although the fabricator incurred considerable additional expense in overtime pay, this delay was not overcome.

It was our feeling that an Oregon fabricator would be able to deliver the cattleguards more expeditiously. The only other fabricator of cattleguards manufactures these in Provo, Utah although they do have a subsidiary in Baker, Oregon (manufacturing other products).

Possibly some of the delay is attributable to this fabricator's unfamiliarity with this product, this being their first job.

Our installation crews also made every effort through overtime work and additional men to make up the lost time but were not able to complete cleanup work and incidental work prior to the completion date, June 8, 1969.

All the major work on the project was completed before June 8, 1969. The 12 excess days were spent in cleanup work and installation of miscellaneous hardware and fixtures. To the best of our knowledge there was no inconvenience to the traveling public during these 12 days nor throughout the life of the project.

For the above reasons, we earnestly request that an increase of 12 workdays be granted.

LAAM, IRVING & COMPANY

By James B. Irving

RECEIVED
SEP 10 1969
W. C. FERGUSON
RESIDENT ENGINEER

RECEIVED
OCT 21 1969
FOR FILE

I-80N-5(33)1-7
7196

October 20, 1969

Oregon State Highway Commission

Gentlemen:

Request for Extension of Time
No. 6
November 18, 1969 meeting

Lamm-Irving and Company has requested a 12-calendar day extension on the Stanfield Junction-Pendleton and Emigrant Park-Meacham guardrail and cattle guard project on I-80N, Contract No. 7196, in Umatilla County. The contractor cites a delay in securing cattle guard components from a fabricator.

The last of these components was delivered to the project only six days before the contract time expired. Apparently, the fabricator was slow in making delivery. However, we believe ample time was allowed in the contract to secure the necessary materials which are not particularly scarce or strategic.

We must therefore recommend that the request be denied. The project was completed on June 20 with 12 days liquidated damages accrued amounting to $1,200.

This matter will be on the agenda for your consideration at the November 18 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
F. B. Klaboe
V. D. Wolfe
V. E. Skoog
F. D. Morgan
H. S. Coulter

JAB:fw sr

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request

for

Increase in Number of Workdays

to

Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 7196 Contractor Loen-Irving and Company

Highway Old Oregon Trail

Section Stanfield Jct.-Pendleton & Emigrant Park-Meacham

Kind of Work Guard Rail and Cattleguards

It is recommended that the request for increase in the number of workdays within which to complete said contract be **DENIED** or **GRANTED.** The reasons for such recommendation are as follows:

DENIED. [illegible]

Recommended for Approval:

Division Engineer

Robert A. Bond
for
Construction Engineer ~~or Bridge Engineer~~

F B Klaboe
State Highway Engineer

Revised

State Printing 37929

Contract No.	7196
Project designation (State-Federal)	I-80N-3(33)187
Date awarded	2/11/69
Work started	3/25/69
Per cent completed	100% 6-20-69
No. of Workdays Allowed	100
No. of Workdays Used	112
No. of Added Workdays Requested	12

E--320 (Rev.)—5M—5-60

OREGON STATE HIGHWAY COMMISSION

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon

Date September 4, 1969

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from 100 days to 112 days, within which to complete our Contract No. 7196, without the assessment of liquidated damages. The said contract is described as follows: Stanfield Jct.-Pendleton and Emigrant Park-Meacham Sections, Old Oregon Trail, Umatilla County

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows:

5/4/69 to 6/2/69 - 26 days - Delay beyond our control in receipt of cattleguards. (See attached)

Respectfully submitted,

LAAM, IRVING & COMPANY
Contractor

By James B. Irving

CONSENT OF SURETY

Date September 5, 1969

We, RELIANCE INSURANCE COMPANY, as surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

Gladys I. Proux
Gladys I. Proux Attorney-in-fact

(SEAL)

Resident Agent

RECEIVED
SEP 10 1969
W. C. FERGUSON
RESIDENT ENGINEER

Attachment to: September 4, 1969

Contractors Request for Increase in Number of Workdays to Complete Construction Contract (OSHD Form No. E-320)

Reference: Stanfield Jct.-Pendleton, et al, Contract 7196

At the time our proposal was submitted Rose City Ironcraft Shop, Inc., Portland, Oregon, the cattleguard fabricator, indicated delivery of cattleguards would be completed in 60 days after receipt of approved drawings. Their estimate was based in turn on commitments received from their suppliers.

Approved drawings were received March 4, 1969 making the final delivery date May 4, 1969. Final delivery was not received till June 2, 1969. This delay was caused in part by failure of the fabricator's suppliers to make timely delivery of the major component part of the cattleguard.

Although the fabricator incurred considerable additional expense in overtime pay, this delay was not overcome.

It was our feeling that an Oregon fabricator would be able to deliver the cattleguards more expeditiously. The only other fabricator of cattleguards manufactures these in Provo, Utah although they do have a subsidiary in Baker, Oregon (manufacturing other products).

Possibly some of the delay is attributable to this fabricator's unfamiliarity with this product, this being their first job.

Our installation crews also made every effort through overtime work and additional men to make up the lost time but were not able to complete cleanup work and incidental work prior to the completion date, June 8, 1969.

All the major work on the project was completed before June 8, 1969. The 12 excess days were spent in cleanup work and installation of miscellaneous hardware and fixtures. To the best of our knowledge there was no inconvenience to the traveling public during these 12 days nor throughout the life of the project.

For the above reasons, we earnestly request that an increase of 12 workdays be granted.

LAAM, IRVING & COMPANY

By James B. Irving

RECEIVED
SEP 10 1969
W. C. FERGUSON
RESIDENT ENGINEER

FORM 2-90 (12-67)

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
October 15, 1969

SUBJECT: Stanfield Jct.-Pendleton and
Emigrant Park-Meacham Sections
Contract No. 7196

To: Mr. F. B. Klaboe
Assistant State Highway Engineer
BUILDING

Laam-Irving Company requests a 12-calendar workday time extension because of alleged delay beyond their control in the fabrication and delivery of the steel cattle guards. Bids were opened on this project January 9 and it covered the installation of 13,650 feet of guardrail and 23 cattle guards. Time was set up on a calendar workday basis, so the day count did not start until March 1. One hundred (100) days were allowed which had elapsed on June 8.

The contractor cites that the last of the cattle guards were not delivered until June 2. We find that delivery started on April 24. The project was considered complete on June 20 with 12 days liquidated damages accrued.

We do not believe the nature of the cattle guard fabrication and the materials involved should make it a particularly scarce commodity or require the lead time associated with some strategic products these days. Presumably, the contractor could have protected himself for the late delivery from his fabricator. The contract items on the project actually underran 4 percent. Engineering overran 13 percent.

We recommend that the request be denied. The 12 days liquidated damages amount to $1,200. This is a Federal-aid Interstate project. A rough draft letter to the Highway Commission is enclosed.

F. D. Morgan
Construction Engineer

By John A. Bond
John A. Bond
Construction Administration Engineer

JAB:fw
Enc.
cc V. L. Gallagher

RECEIVED
OCT 17 1969
OFFICE OF

RECEIVED
SEP 4 - 1969
FOR FILING

I 80N-5(32)187
7196

C

September 4, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed June 30, 1969, on Contract No. 7196. The contract was with Lace-Irving & Company and was for guardrail and cattle guard construction on the Stanfield Junction-Pendleton and Emigrant Park-Meacham Sections of the Old Oregon Trail Highway in Umatilla County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective September 4, 1969, and that you concur in this procedure at the Commission meeting on September 30.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
F. B. Klaboe
V. D. Wolfe
V. E. Skoog
Ivan Merchant
F. D. Morgan
L. H. Young
H. S. Coulter

srb sr

RECEIVED
NOV 1 - 1969

FOR FILING

I-80N-5(33)187
7196

September 4, 1969

Reliance Insurance Company
Portland Office
620 Oregon Bank Bldg.
Portland, Oregon 97204

Gentlemen:

Contract No. 7196 awarded to Leam, Irving & Company for guardrail and cattle guards on the Stanfield Jct. - Pendleton and Emigrant Park-Meacham Section of the Old Oregon Trail in Umatilla County was completed on June 20, 1969, and accepted by the Highway Commission on September 4, 1969.

Final payment in the amount of $5,421.79 will be released to the contractor after September 11, 1969. The total contract amount is $104,049.50 and no work was performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

aj

cc Leam, Irving & Company
135 E. Hereford Street
Gladstone, Oregon 97027

bc H. S. Coulter
Frank Morgan
V. E. Skoog
Attn: John Herr

RECEIVED
AUG 1 1969
FOR FILING

OREGON STATE
HIGHWAY DEPARTMENT

I-80N-[illegible]

7196

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

June 27, 1969

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage Street, N.E.
Salem, Oregon 97301

Contract 7196
Prefix 630-1004
FAP I-80N-5(33)187
I-80N-6(39)233

Dear Sir:

The work under Contract No. 7196, Stanfield Junction-Pendleton and Emigrant Park-Meacham Section of the Old Oregon Trail Highway in Umatilla County, was completed on June 20, 1969.

We request that your office inspect the contract work and return two signed copies of this letter indicating acceptance or listing below any items or conditions of the contract which would prevent your final acceptance of the contract work.

Very truly yours,

Forrest Cooper
State Higiway Engineer

By F D Morgan
F. D. Morgan
Construction Engineer

Bureau of Public Roads
Oregon Division Office Endorsement

Date 7-15-69

Conditions noted on above date:

NONE

RAN:bk

R. E. Simpson
Division Engineer

RECEIVED
JUL 31 1969
OFFICE OF
STATE HIGHWAY ENGINEER

VG:fw
To: Forrest Cooper
F. D. Morgan

I-80N-5(33)187
7196

No. 17 FINAL REPORT

FORM E-1 (REV 12-66)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

	SECTION Stanfield Jct.-Pendleton & Emigrant Park-Meacham	WEEK ENDING June 27, 1969
		SECTION PREFIX 630-1004
	HIGHWAY Old Oregon Trail	COUNTY Umatilla
NAME OF JOB Stanfield Jct.-Pendleton & Emigrant Park-Meacham	KIND OF WORK Cattle Guards and Guard Rail	
CONTRACTOR Laam, Irving and Company	CONTRACT NUMBER 7196	FEDERAL AID PROJECT NUMBER I-80N-5(33)187 & I-80N-6(39)233
DATE OF CONTRACT January 14, 1969	DATE WORK STARTED March 25, 1969	ESTIMATED COMPLETION DATE June 20, 1969
AVERAGE FORCE ON PROJECT FOR THE WEEK:	SPECIFIED WORK DAYS	WORK DAYS USED
MEN 1 SUPERVISION	SPECIFIED CALENDAR DAYS 100	CALENDAR DAYS USED 112
PROJECT AUTHORIZATION $ 124,730.82	SPECIFIED COMPLETION DATE	PERCENT OF TIME ELAPSED 112%
EXCLUSIVE OF ENGINEERING $ 114,840.27	ENGINEERING AUTHORIZATION $ 9,890.55	PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST 100%
ESTIMATED COST OF COMPLETED PROJECT EXCLUSIVE OF ENGINEERING $ 105,297.50	ENGINEERING COST TO DATE $ 10,248.46	PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION 91.7%
ESTIMATED PERCENT XXXXXX UNDERRUN 8.3 %	PERCENT OF AUTHORIZATION 103.6 %	DATE PROJECT WAS COMPLETED:

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD	Cattle Guards	Guardrail
These items are not applicable on this contract					→	100%	100%

	Cattle Guards	Guardrail	~~MAINTENANCE MATERIALS~~	~~MACADAM~~	~~PAVING~~
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)	23 (each)	13,650 (lin.ft)			
TOTAL QUANTITIES CORRECTED TO DATE	23	12,425			
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE	23	12,425			
AVERAGE DAILY [illegible]	0	0			
AVERAGE DAILY [illegible] NECESSARY TO COMPLETE PROJECT ON TIME	0	0			
NUMBER OF SHIFTS PER DAY	1	0			
HOURS PER SHIFT	8	0			

EQUIPMENT USED DURING THE WEEK:
1 truck

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT	There are no structures to be constructed on this project.							

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
June 22 SUNDAY	Cloudy-Showers	0		
June 23 MONDAY	Rain	0		
24 TUESDAY	Fair and Wind	0		
25 WEDNESDAY	Cloudy and Cool	0		
THURSDAY	- - -	-		
FRIDAY	- - -	-		
21 SATURDAY	Fair and Hot	0		

Routing
Morgan
Decker
Bond
Walker
Boehme

RECEIVED
JUN 30 1969
CONSTRUCTION
DIVISION

NOTED
R. D. CHURCH

GENERAL SCRIPTION OF ACTIVITIES FOR E WEEK

June 22 NDAY	No work activity
23 NDAY	The contractor removed I.D. signs on the Stanfield Jct.-Pendleton part of this contractand final cleanup is in progress.
24 AY	Final cleanup in progress is in progress and the contractor removed the I.D. signs from the Emigrant Park-Meacham part of this contract.
25 WEDN SDAY	Final cleanup has been completed.
RSDAY	
IDAY	
21 TURDAY	No work activity.

REMARKS

This contract has been finishied and the preliminary inspection by the Resident Engineer was made. The time charges were completed as of the 20th of June and the contractor moved off the project the 25th after final cleanup was done. The semi-final estimate will be submitted shortly.

SIGNED W C Ferguson LOCATION Pendleton

IMIT COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

RECEIVED
MAR 14 1969

Memorandum

I-80N-5(33)187

7196

Klaboe

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

BUREAU OF PUBLIC ROADS
477 Cottage Street NE.
Salem, Oregon 97301

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

DATE: March 10, 1969

In reply refer to: 08-35-DA

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon I-80N-5(33)187
Stanfield-Pendleton Section
Guardrail Post Spacing

NOTED
F. B. KLABOE

This office concurs with your proposal as set forth in Mr. Klaboe's letter dated March 3 to leave unchanged the guardrail post spacing as set up in the contract.

We are pleased that you have considered favorably our request to have all future installations of guardrail located on high speed, high volume highways installed with a 6-foot 3-inch post spacing.

We will make the assumption that all Interstate and other freeway sections are automatically considered as high volume, high speed highways. Other sections would be considered on their individual merits.

3-13-69

REFERRED TO
Young - Barbee - Morgan
BY ASST. STATE HWY. ENGR

RECEIVED
MAR 13 1969
OFFICE OF
STATE HIGHWAY ENGINEER

Barbee - please take appropriate action.

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

RECEIVED
MAR 6 - 1969
FOR [illegible]

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

[illegible]
1176

March 3, 1969

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage Street, N. E.
Salem, Oregon 97301

Dear Sir:

Re: 08-35-DA/541.1
X I-80N-5(33)187

Reference is made to your letter of February 20 concerning spacing of guardrail posts. I agree and will change our specifications so that guardrail post spacing hereafter on all high-speed, high-volume highways will be 6 feet 3 inches.

With regard to the existing contract for guardrail installation on Project I-80N-5(33)187, Stanfield-Pendleton Section, Old Oregon Trail Highway, we propose to leave the spacing as required by the contract. Our reason for recommending the 12-foot 6-inch spacing here is that the current work consists mainly of adding guardrail to newly installed rail constructed with 12-foot 6-inch post spacing.

If these criteria will satisfy your requirements, please advise.

Very truly yours,

Forrest Cooper
State Highway Engineer

By ORIGINAL SIGNED BY
E. B. KLABOE

F. B. Klaboe
Assistant State Highway Engineer

Copy: H. T. 3-6-69

FBK:srb
cc: Forrest Cooper
R. L. Porter
Tom Edwards
D. J. Barbee

TOM EDWARDS

UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
477 Cottage Street NE.
Salem, Oregon 97301

DATE: February 20, 1969

In reply refer to: 08-35-DA/541.1
X I-80N-5(33)187

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Guardrail Standards

Previous submittals of your Standard Drawing 2094 have been received by our Washington and Regional staffs and they have continually recommended a change in the guardrail post spacing to 6 feet 3 inches. This spacing is recommended by HRB Special Report No. 81 and NCHRP 54 "Location Selection and Maintenance of Highway Guardrails and Median Barriers."

We have now received comments concerning the proposed spacing of guardrail posts for Project I-80N-5(33)187, Umatilla County.

It is recommended that a guardrail post spacing of 6 feet 3 inches be utilized for all high speed, high volume highways.

[illegible]

RECEIVED
FEB 26 1969
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

Approved; Budget Bureau No. 41-R2089.1

MONTHLY TRANSACTION NO. 2-19	FORM PR-2 (REV. 3-66) U.S. DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS	STATE Oregon
PROJECT REPORT NO. 4	**FEDERAL-AID PROJECT AGREEMENT** (PPM 21-7) 2-6-67	COUNTY Umatilla PROJECT NO. I-80N-5(33)187

The State, through its Highway Department, having complied, or hereby agreeing to comply, with the terms and conditions set forth in (1) Title 23, U.S. Code, Highways, (2) the Regulations issued pursuant thereto by the Secretary of Commerce and, (3) the policies and procedures promulgated by the Federal Highway Administrator relative to the above designated project, and the Bureau of Public Roads having authorized certain work to proceed as evidenced by the date entered opposite the specific item of work, Federal funds are obligated for the project not to exceed the amount shown herein, the balance of the estimated total cost being an obligation of the State. Such obligation of Federal funds extends only to project costs incurred by the State after the Bureau of Public Roads authorization to proceed with the project involving such costs.

PROJECT TERMINI

Stanfield Jct.-Pendleton Section of the Old Oregon Trail Highway

PROJECT CLASSIFICATION OR CLASS OF WORK	EFFECTIVE DATE OF AUTHORIZATION	APPROXIMATE LENGTH (Miles)
HIGHWAY PLANNING		▨
PRELIMINARY ENGINEERING		
RIGHTS-OF-WAY		▨
CONSTRUCTION	12-18-68	0.000
OTHER (Specify)		

FUNDS Pro Rata 92.26

ESTIMATED TOTAL COST OF PROJECT $ 110,104	FEDERAL FUNDS $ 101,000.00

The State further stipulates that pursuant to said Title 23, Regulations, and policies and procedures, and as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth on the reverse hereof.

OREGON STATE HIGHWAY DEPARTMENT
(Official name of Highway Department)

By Klaboe

Asst. State Highway Engineer
(Title)

By

(Title)

By

(Title)

U.S. DEPARTMENT OF COMMERCE

BUREAU OF PUBLIC ROADS

By Simpson
(Division Engineer)
R. E. Simpson

Date executed by Division Engineer 6 FEB 1969

Oregon State Highway Department

Federal-Aid
Project No. I-80N-5(33)187

STANFIELD JCT.-PENDLETON SECTION OF THE OLD OREGON TRAIL HIGHWAY IN UMATILLA COUNTY

Project agreement estimate.

Salem, Oregon, January 23, 1969

Type Code X101
Guard Rail and Cattle Guard (Sta. 134+00 to Sta. 1340+00)(Contract No. 7196)

Temporary Protection and Direction of Traffic	All	Required (80%)		$ 8,800.00
Type 2 Guard Rail	11,750	lin.ft.	$ 2.42	28,435.00
Type 2A Guard Rail	1,900	lin.ft.	4.00	7,600.00
Guard Rail Anchors	14	only	200.00	2,800.00
Rail End Piece "A"	14	only	10.00	140.00
Rail End Piece "B"	40	only	48.00	1,920.00
26' Cattle Guards	20	only	2,500.00	50,000.00
				$ 99,695.00
Flagging (60% of Contractor's Cost)	All	Required		$ 400.00
		Subtotal		$100,095.00
		10% Engr. & Cont.		10,009.00
		Total		$110,104.00

Length of Project - - - - - - 0.000 Mile

Federal Funds -	$101,000.00
State Funds -	9,104.00
Total	$110,104.00

State Funds for Const.: Chap. 175, laws 1917; Chap. 31, laws 1920;
Chap. 529, laws 1939.
State Funds for Maint.: Chap. 529, laws 1939.

c

RECEIVED
JAN 22 1969

FOR FILING

I-80N-5(33)187

7196

January 21, 1969

Leon, Irving & Company
135 E. Hereford Street
Gladstone, Oregon 97027

Gentlemen:

Enclosed are three copies of Contract No. 7196 for $109,395 awarded to you by the State Highway Commission on January 14, 1969. This contract is for a guardrail and cattle guards on the Stanfield Junction-Pendleton and Emigrant Park-Meacham Section of the Old Oregon Trail in Umatilla County.

Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The calendar workday count on this contract will begin March 1, 1969, as outlined in Article 8-7, Paragraphs 4 and 5, under General Special Provisions and superseding Paragraph 8-7 under Section 8 of the Special Provisions.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Enclosures
bc: Frank Morgan
    D. J. Barbee
    I. D. Merchant
    C. D. Matthis (SIAC)
    W. C. Ferguson
    A. F. Parson

RECEIVED
DEC 23 1968

FOR FILING

FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS

LETTER OF APPROVAL AND/OR AUTHORIZATION

I-80N-5(33)187

7196

PROJECT:	I-80N-5(33)187
SECTION:	STANFIELD JUNCTION-PENDLETON
WORK:	GUARD RAIL
COUNTY:	UMATILLA

TO: MR. FORREST COOPER
STATE HIGHWAY ENGINEER
SALEM, OREGON

FROM:	DATE PS&E APPROVED	DATE AUTHORIZED
R. E. SIMPSON, DIVISION ENGINEER SALEM, OREGON	DECEMBER 18, 1968	DECEMBER 18, 1968

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW:

☒ CONSTRUCTION - ADVERTISE FOR BIDS.
☐ UTILITY ADJUSTMENT.
☐ RIGHT OF WAY.
☐ RIGHT OF WAY INCIDENTALS AND RELOCATION PAYMENTS.
☒ OTHER (SPECIFY). AFTER AWARD CONCURRENCE YOU ARE AUTHORIZED TO PROCEED WITH CONTRACTOR'S FLAGGING SHOWN IN YOUR ESTIMATE IN AMOUNT OF $400.00

REMARKS AND LIMITS OF AUTHORITY:

MR. YOUNG'S DECEMBER 12, 1968 REQUEST AND CERTIFYING STATEMENTS ARE ACCEPTED. PS&E DOCUMENTS FOR SUBJECT PROJECT HAVE BEEN REVIEWED AND ARE HEREBY APPROVED.

A SIGNED COPY OF THE TITLE SHEET IS RETURNED HEREWITH.

RECEIVED
DEC 23 1968
OFFICE OF
STATE HIGHWAY ENGINEER

OFFICE USE
12-23-68
REFERRED TO
Hwy. Engr.

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
12-18-68	S L Greene For R. E. SIMPSON	DIVISION ENGINEER

RECEIVED
DEC [illegible] 1968

UNITED STATES GOVERNMENT

Memorandum

I-80N-5(33)[illegible]7
7176

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
477 Cottage Street, NE
Salem, Oregon 97301

Klaboe

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

DATE: December 10, 1968

In reply refer to: 08-35.EC/710.11

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Federal-aid Interstate Program

Mr. Young's August 28, November 1 and November 13, 1968 letters requested the inclusion of six Interstate Items in this program. Until today we have been restricted from processing these program items pending resolution of the requirements of Mr. Bridwell's August 30, 1968 letter. Therefore, these Stage 2, Construction Phase projects are approved effective today:

Item	Project	Location	Work
549	I-405-8(21)302	NW Johnson-SW Montgomery	Landscaping
550	I-80N-6(35)228	Deadman's Pass Rest Area	Drill wells
551	I-80N-6(36)268	Ladd Canyon Rest Area	Drill wells
552	I-80N-5(33)187	Stanfield-Pendleton Sec.	Guardrail & cattle guards
553	I-80N-6(39)233	Emigrant Park-Glover Sec.	Cattle guards
554	I-5-5(44)285	E. Port. Frwy-Wilsonville Section	Grade, pave 3 structures

It is understood that no improvements with regard to right of way are involved on the above projects, therefore the requirements of IM 80-1-68 are satisfied.

On Items 550 and 551, I-80N-6(35)228 and I-80N-6(36)268 the drilling of wells is recognized as Stage Construction for future rest areas.

On Items 552 and 553, I-80N-5(33)187 and I-80N-6(39)233 the individual locations of the guardrail and cattle guards will be approved on the basis of the data accompanying the P.S. & E.

12-12-68

REFERRED TO
Young
[illegible] Hwy. Engr.

(more)

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

On Item 554, I-5-5(44)285 E. Portland Freeway-Wilsonville Section, you are authorized to proceed with utility preparatory work effective today. The credit for Interstate funds involved in the existing structures will be approved at the P.S. & E. Stage.

This action provides for improvement on 4.48 miles of Interstate Highway at a total estimated cost of $5,474,000 of which $5,085,600 is reserved as Federal-aid Interstate Program funds.

RECEIVED
DEC 12 1968
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
OCT 3 - 1968

I-80N-5(3)1187

7146

Salem, Oregon
July 11, 1968

W. L. Porter
Deputy State Highway Engineer

On July 10, I discussed in detail the matter of severance of farm properties, such as on the Stanfield Junction-Pendleton Section of Highway 80N, with Lowell K. Bridwell, Federal Highway Administrator; Ralph M. Phillips, Regional Federal Highway Administrator and Robert E. Simpson, Division Engineer of the Bureau of Public Roads. A fairly detailed inspection was made on the ground.

Mr. Bridwell stated that he felt some action was indicated and requested that, as a starting point, we make a cost estimate of providing 13'x 13' machinery passes on the uncompleted (or contracted) sections of Highway 80N.

I realize that this could be quite a task but would you please have someone put something together which might at least reflect some solution to the problem.

I am to transmit this information through the local Bureau office.

Forrest Cooper
State Highway Engineer

FC:fn

cc Victor D. Wolfe

September 11, 1968

Listed below are sections of uncompleted I-80N between Pendleton and Ontario and the number of equipment passes on each section needed to adequately serve severed parcels:

PENDLETON TO EMIGRANT HILL	
16 Equipment passes (13' x 13')	$ 600,000
EMIGRANT HILL TO LA GRANDE	
I-80N Completed	
LA GRANDE TO NORTH POWDER	
3 Equipment Passes (13' x 13')	150,000
NORTH POWDER TO BAKER	
8 Equipment Passes (13' x 13')	550,000
BAKER TO BUBBS RANCH	
I-80N Completed	
BUBBS RANCH-LIME	
4 Equipment Passes (13' x 13')	150,000
LIME TO OLDS FERRY	
I-80N Completed	
OLDS FERRY TO ONTARIO	
14 Equipment passes (13' x 13')	650,000
TOTAL: 45 Equipment Passes (13' x 13')	$2,100,000

NOTE: Maps and back-up data on file in Rural Design.

Cheyenne

NOTED
FORREST COOPER

I-80N-6(35) Deadmans Pass Safety Rest 1969
228 Area on Old Oregon Trail, SE of
#7197 Pendleton. (Well Exploration)

RECEIVED
DEC 4 - 1969

FOR FILING
I-80N-6(35) 22X
7197

December 4, 1969

Hartford Accident and Indemnity Company
Surety Department
1820 Eastlake Avenue East
Seattle, Washington 91802

Gentlemen:

Contract No. 7197 awarded to R. J. Strasser Drilling Company for well exploration in Deadmans Pass Safety Rest Area on the Old Oregon Trail in Umatilla County was completed on October 1, 1969, and accepted by the Highway Commission on December 3, 1969.

Final payment in the amount of $1,419.43 will be released to the contractor after December 11, 1969. The total contract amount is $26,857.13 and no work was performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fhn

cc R. J. Strasser Drilling Company
8110 S. E. Sunset Lane
Portland, Oregon 97206

Mr. George M. Cowell
5115 S. E. Foster Road
Portland, Oregon 97206

Frank Morgan
Ivan Merchant
V. E. Skoog H. S. Coulter
Attn: John Herr

IVED
DEC 3 - 1969
OR FILING

I-80N-6(35)228
7197

December 3, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed October 1, 1969, on Contract No. 7197. The contract was with R. J. Strasser Drilling Company and was for well exploration on the Deadmans Pass Safety Rest Area Section of the Old Oregon Trail Highway in Umatilla County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective December 3, 1969, and that you concur in this procedure at the Commission meeting on December 23.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
F. B. Klaboe
V. D. Wolfe
V. E. Skoog
Ivan Merchant
F. D. Morgan
L. H. Young
H. S. Coulter

srb ST

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I-80N-6(35)228
7197

3g
(20)

November 26, 1969

R. J. Strasser Drilling Company
8110 S.E. Sunset Lane
Portland, Oregon 97206

Gentlemen:

The State Highway Commission at its meeting on November 18, 1969, granted you an additional three days on Contract No. 7197 for well exploration in Deadmans Pass Safety Rest Area on the Old Oregon Trail in Umatilla County.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION
By
C. W. Head, Assistant Secretary

cr

bc: F. D. Morgan
V. E. Skoog
H. S. Coulter
J. C. Hiatt
Bureau of Public Roads

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I-80N-6(35)228
7197

39

(20)

November 26, 1969

R. J. Strasser Drilling Company
8110 S.E. Sunset Lane
Portland, Oregon 97206

Gentlemen:

The State Highway Commission at its meeting on November 18, 1969, granted you an additional three days on Contract No. 7197 for well exploration in Deadmans Pass Safety Rest Area on the Old Oregon Trail in Umatilla County.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION
By
C. W. Head, Assistant Secretary

cr

bc: F. D. Morgan
V. E. Skoog
H. S. Coulter
J. C. Hiatt
Bureau of Public Roads

RECEIVED
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FOR FILIN

I-80N-6(35)228
7197

November 12, 1969

Oregon State Highway Commission

Gentlemen:

Request for Extension of Time
No. 20
November 18, 1969 meeting

At your September 30 meeting, you approved a 30-day time extension on the Deadmans Pass Safety Rest Area well development project on the Old Oregon Trail Highway in Umatilla County. This is Contract No. 7197 with R. J. Strasser Drilling Company.

The extension was justified because of late modifications in the contractor's work to properly develop the well for future westbound rest area use. The work was completed October 1 and actually required 33 additional days. The well will not actually be used until some time in the future.

I recommend an additional three days extension which will eliminate all liquidated damages. This is a Federal-aid Interstate project and we have the approval of the Bureau of Public Roads.

This matter will be on the agenda for your consideration at the November 18 meeting.

Very truly yours,

JAB:fw sr

Forrest Cooper
State Highway Engineer

By

R. L. Porter
Deputy State Highway Engineer

cc: Floyd Query
F. B. Klaboe
V. D. Wolfe
V. E. Skoog
H. S. Coulter
F. D. Morgan

FORM E-30 (12-67)

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
November 10, 1969

SUBJECT: Request for Extension of Time
Deadmans Pass Safety Rest Area
Contract No. 7197

To:

Mr. F. B. Klaboe
Assistant State Highway Engineer
BUILDING

A late Price Agreement on this project made a significant change in the well development which added casing for its full depth and some accessory work concerning sand screen and perforating. In negotiating this price agreement, the contractor requested an additional 30 days time. This was submitted to the Highway Commission for their approval at their September 30 meeting so the project record stands with a 30-day time extension which expired September 28. The contractor performed the Price Agreement work but did not actually complete all of it until October 1. We therefore have to withhold 3 days liquidated damages at the rate of $50 per day.

The contractor was cooperative in making the changes and fulfilling all his contractual obligations. I believe we should seek 3 more days time extension to delete all liquidated damages. The Bureau of Public Roads has approved the full 33 days via their approval of the Price Agreement. A rough draft letter to the Highway Commission for the purpose of getting their approval on 3 more days making a total of 33 is attached. ✓

F. D. Morgan
Construction Engineer

By John A. Bond
John A. Bond
Construction Administration Engineer

JAB:fw
Attach.
cc V. L. Gallagher

RECEIVED
NOV 12 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
NOV 21 1969

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

I-80N-6(35)228
7197

October 7, 1969

Mr. R. E. Simpson
Division Engineer
Bureau of Public Roads
477 Cottage Street, N.E.
Salem, Oregon 97301

Contract 7197
Prefix 630-1005
FAP I-80N-6(35)228

Dear Sir:

All work under Contract No. 7197, Deadmans Pass Safety Rest Area Section of the Old Oregon Trail Highway in Umatilla County, was completed on October 1, 1969.

We request that your office inspect the contract work and return two signed copies of this letter indicating acceptance or listing below any items or conditions of the contract which would prevent your final acceptance of the contract work.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

F. D. Morgan
Construction Engineer

NOTED
R. B. KLABOE

Bureau of Public Roads
Oregon Division Office Endorsement

Date 10-29-69

Conditions noted on above date:

NONE

RAH:bk

R. E. Simpson
Division Engineer

RECEIVED
NOV 19 1969
OFFICE OF
STATE HIGHWAY ENGINEER

VG:fw
cc: Forrest Cooper
F. D. Morgan

I-80N-6(35)228
7197

Final Report #19

FORM E-1 (REV. 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: DEADMAN'S PASS SAFETY REST AREA

WEEK ENDING: October 4th, 1969

SECTION PREFIX: 630-1005

HIGHWAY: Old Oregon Trail

COUNTY: Umatilla

NAME OF JOB: Deadman's Pass Safety Rest Area

KIND OF WORK: Well Exploration

CONTRACTOR: R. J. Strasser Drilling Co.

CONTRACT NUMBER: 7197

FEDERAL AID PROJECT NUMBER: I-80N-6 (35) 228

DATE OF CONTRACT: January 29th, 1969

DATE WORK STARTED: May 27th, 1969

ESTIMATED COMPLETION DATE: October 1st, 1969

AVERAGE FORCE ON PROJECT FOR THE WEEK:
MEN: 1 SUPERVISION: 1

SPECIFIED WORK DAYS

SPECIFIED CALENDAR DAYS 90 - 30 day

SPECIFIED COMPLETION DATE extension

WORK DAYS USED

CALENDAR DAYS USED 123

PERCENT OF TIME ELAPSED

PROJECT AUTHORIZATION: $ 37,084.83

EXCLUSIVE OF ENGINEERING: $ 33,845.98

ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 31,000.00

ESTIMATED PERCENT: ~~OVERRUN~~ UNDERRUN 3 %

ENGINEERING AUTHORIZATION $ 3,238.85

ENGINEERING COST TO DATE $ 4,769.38

PERCENT OF AUTHORIZATION 147 %

PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST 100%

PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION 96½%

DATE PROJECT WAS COMPLETED: October 1st, 1969
Semi-final - Oc tober 15th

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD.		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)					
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE					
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:
1 - Churndrill 1 - 15 hp Pump 1 - Generator
1 - Flatbed Truck 1 - Pickup

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

RECEIVED
CONSTRUCTION DIVISION

Routing
Decker
Swan
Glenn

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY 28	Pt. Cloudy			
MONDAY 29	Overcast - Warm			
TUESDAY 30	Overcast - Cold			
WEDNESDAY 1	Overcast - Rain			Project completed
THURSDAY				
FRIDAY				
SATURDAY				

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY 28	No activity
MONDAY 29	Drill crew arrived on the project in PM and wired pump to generator. Ran test to see if pump operating properly.
TUESDAY 30	Ran pump test on well all day.
WEDNESDAY 1	Contractor Pulling pump and pipe from well. Welded steel plate ~~over~~ well casing. Rest of day spent cleaning up and removing equipment. Project completed with the exception of removal of Standard Oil Tank and several barrels.
THURSDAY	
FRIDAY	
SATURDAY	

REMARKS

Project is completed with the exception of The Standard Oil Fuel tank and barrels to be removed.

SIGNED J C Hiatt
J. C. Hiatt
LOCATION La Grande

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES

SP*F216

RECEIVED
NOV 1 - 1969
FOR FILING

5 RN-6(35)28
7197

October 1, 1969

Agenda 3i-1
9-30-69

3033

R. J. Strasser Drilling Company
8110 S. E. Sunset Lane
Portland, Oregon 97206

Gentlemen:

The State Highway Commission on September 30, 1969, approved, without assessment of liquidated damages, a 30-day time extension on Contract No. 7197 for well exploration in Deadmans Pass Safety Rest Area on the Old Oregon Trail in Umatilla County.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

sj
cc F. D. Morgan
V. E. Skoog
H. S. Coulter
J. C. Hiatt
Bureau of Public Roads

FORM E-30-X (12-67

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
August 27, 1969

SUBJECT: Price Agreement for Placing 6-inch Steel Pipe Well Casing With Screen
Deadmans Pass Safety Rest Area
Old Oregon Trail Highway
Contract No. 7197

To: Mr. H. S. Coulter
Division Engineer
State Highway Department
P. O. Box 850
LaGrande, Oregon 97850

Attached find pertinent data for a Price Agreement to furnish and install a 6-inch steel pipe along with screen in the well hole on the subject project.

As you know, a meeting was held with Al Rear, F. D. Morgan, Roy Olson, R. J. Strasser, myself and others regarding the problem on this well. The results of this meeting were that it would be in order to install the pipe and screen due to hitting the substantial sand layer. In order to do this along with the materials necessary, a churn drill will be needed to get the pipe through the sand. It was also though necessary to perforate the 6-inch pipe as needed to assure obtaining the upper water in the hole. Placing the pipe and screen to the 695 foot depth appeared sufficient.

This work should delete Bid Items 10 and 11. With previous saving, the project should run well within the original allocation.

Bureau of Public Roads' approval has been secured by Al Rear from Dick Nichols. The contractor has asked for an additional 30 days extension of time to complete this work. Please state on the Price Agreement that 30 days additional time will be allowed for this work. Approval of this time has been secured.

F. D. Morgan
Construction Engineer

By

John H. Walker
Field Construction Engineer

JHW:fw
Attach.
cc: F. B. Klaboe
J. C. Hiatt
Ivan Merchant
Roy Olson

Routing
Morgan
Decker
Bond
Walker
Boehme
Johnsen

RECEIVED
SE
CONSTRUCTION DIVISION

Reass.
Swan
Glenn
Litchfield
Gallagher
Stein

RECEIVED
AUG 27 1969
OFFICE OF
STATE HIGHWAY ENGINEER

August 27, 1969

DATA FOR PRICE AGREEMENT ON THE DEADMANS PASS SAFETY REST AREA WELL EXPLORATION

DESCRIPTION OF WORK

Furnish and install approximately 695 feet of 6-inch steel casing with appropriate screen. This work will result in the deletion of contract bid items No. 10 and 11.

Bid Items:

1. 6-inch Steel Casing	695 ft. @ $3.85/ft.	$2,675.75
2. 15' V-Slotted Stainless Steel Screen	15 ft. @ 41.00/ft.	615.00
3. Screen to Pipe Connection Fittings	Lump Sum	50.00
4. Mobilize Churn Drill	Lump Sum	1,200.00
5. Sampling and Baling	8 Hours @ $21.50/hr.	172.00
6. Perforate Casing	2 Hour @ $21.50/hr.	43.00
Bid Item Total		$4,755.75
Delete Bid Item No. 10		$ 472.00
Delete Bid Item No. 11		825.00
Total Deleted Items		$1,297.00
	Total Cost	$3,458.75

SPECIFICATIONS

Well Screen: The screen shall be a V-slotted stainless steel screen with slot opening size to be determined after sieve analysis of sand. The slot widths will be as recommended by the screen manufacturer. The screen shall be a Johnson well screen type or equal.

Fittings: The contractor shall furnish all fittings necessary to make proper connection of the pipe to the screen. The fittings shall include an approved lead packer for sealing the screen to the interior of the pipe or casing. The Lump Sum price for the fittings is understood to include all work necessary to making the connection.

Well Casing: Nominal 6-inch new steel well casing pipe, free from pits and breaks, with plain ends shall be Grade B pipe meeting requirements of ASTM A-53. The pipe shall have a 6.625-inch O.D., a wall thickness of 0.250 inch and a weight of 17.02 pounds per linear foot. Pipe sections shall generally be approximately 20 feet in length.

The well casing shall be assembled with the pipe sections secured by leak-proof welded joints. Adjacent pipe sections in the casing shall be concentric and in true alignment with each other to give a truly aligned casing assembly. Pipe ends shall be butted up tight and the welding shall be performed in a manner to avoid burning through to the interior surface, and afford a smooth bore free of weld metal. Joints shall be secured with not less than three welding passes and shall develop the pipe full wall thickness.

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SEP 5 1969
FOR FILING

I-80N-6(35) 2X
7197

September 3, 1969

Oregon State Highway Commission

Gentlemen:

Request for Extension of Time
No. 1
September 30, 1969 meeting

A late change requested by the State in the development of the well to serve the future westbound Deadmans Pass Safety Rest Area on the Old Oregon Trail Highway in Umatilla County justifies a time extension on the contract. This is Contract No. 7197 with R. J. Strasser Drilling Company covering well exploration for this rest area.

After drilling to the plan limit of 700 feet, pumping tests produced a yield of about 15 gallons per minute of water. In view of the difficulties experienced to date in finding water in this vicinity, it was decided to utilize this well and develop it to its optimum yield. This requires casing the well to its full depth, providing sand screens and perforating the casing through the water bearing zones. This requires the use of a different type of drill than had been specified and used up to that time.

The contractor was agreeable to making these changes at reasonable prices and during the negotiations cited the need for an additional 30 days to secure the necessary materials, move in the proper equipment, and accomplish the changed work. The 90 days originally allowed on this contract expired August 30. An additional 30 days time extension due to this late Price Agreement change is justified. This is a Federal-aid Interstate project and the Bureau of Public Roads will concur in the extension. Telephone approval was secured from Mr. Jackson on August 29.

This matter will be on the agenda for confirmation at the September 30 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
F. B. Klaboe
V. D. Wolfe
V. E. Skoog
F. D. Morgan
H. S. Coulter

JAB:fw sr

C

Form Approved; Budget Bureau No. 41-R2089.1

MONTHLY TRANSACTION NO. 2-33	FORM PR-2 (REV. 3-66) U.S. DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS	STATE Oregon
PROJECT REPORT NO. 4	**FEDERAL-AID PROJECT AGREEMENT** *(PPM 21-7)* 2-6-69	COUNTY Umatilla PROJECT NO. I-80N-6(35)228

The State, through its Highway Department, having complied, or hereby agreeing to comply, with the terms and conditions set forth in (1) Title 23, U.S. Code, Highways, (2) the Regulations issued pursuant thereto by the Secretary of Commerce and, (3) the policies and procedures promulgated by the Federal Highway Administrator relative to the above designated project, and the Bureau of Public Roads having authorized certain work to proceed as evidenced by the date entered opposite the specific item of work, Federal funds are obligated for the project not to exceed the amount shown herein, the balance of the estimated total cost being an obligation of the State. Such obligation of Federal funds extends only to project costs incurred by the State after the Bureau of Public Roads authorization to proceed with the project involving such costs.

PROJECT TERMINI

Deadmans Pass Safety Rest Area on the Old Oregon Trail Highway

PROJECT CLASSIFICATION OR CLASS OF WORK	EFFECTIVE DATE OF AUTHORIZATION	APPROXIMATE LENGTH *(Miles)*
HIGHWAY PLANNING		
PRELIMINARY ENGINEERING		
RIGHTS-OF-WAY		
CONSTRUCTION	12-18-68	0.000
OTHER *(Specify)*		

FUNDS 92.26

ESTIMATED TOTAL COST OF PROJECT	FEDERAL FUNDS
$ 31,227	$ 28,000.00

The State further stipulates that pursuant to said Title 23, Regulations, and policies and procedures, and as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth on the reverse hereof.

OREGON STATE HIGHWAY DEPARTMENT
(Official name of Highway Department)

By

Asst. State Highway Engineer
(Title)

By

(Title)

By

(Title)

U.S. DEPARTMENT OF COMMERCE

BUREAU OF PUBLIC ROADS

By
(Division Engineer)
R. E. Simpson

Date executed by Division Engineer 6 FEB 1969

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

USCOMM-DC 26854-P66

Oregon State Highway Department

Federal-Aid
Project No. I-80N-6(35)228

DEADMANS PASS SAFETY REST AREA ON THE OLD OREGON TRAIL HIGHWAY IN UMATILLA COUNTY

Project Agreement Estimate

Salem, Oregon, January 30, 1969

Type Code X021
Well Construction (Sta. 1092-93)(Contract No. 7197)

Drill Rig Moving	All Required		$ 1,250.00
Drilling 6-inch Test Holes	600 lin.ft.	$ 9.50	5,700.00
Drilling 8-inch Test Holes	800 lin.ft.	13.50	10,800.00
Department Work	40 hr.	21.50	860.00
Pumping Tests	36 hr.	28.00	1,008.00
Reaming Test Holes to 12-inch Diameter	240 lin.ft.	15.50	3,720.00
Furnishing and Installing 6-inch Well Casing	240 lin.ft.	4.75	1,140.00
Formation Grouting	10 cu.yd.	65.00	650.00
Casing-off Formations	100 lin.ft.	4.35	435.00
Perforated 4-inch Well Liner	150 lin.ft.	3.15	472.50
Perforated 6-inch Well Liner	150 lin.ft.	5.50	825.00
Abandonment of Hole	1 only	350.00	350.00
Filling Abandoned Hole	600 lin.ft.	0.75	450.00
Standby Time	36 hr.	10.50	378.00
Temporary Protection & Direction of Traffic	All Required		350.00
	Subtotal		$28,388.50
	10% Engr. & Cont.		2,838.50
	Total		$31,227.00

Length of Project - - - - - - - - - - - 0.00 mile

Retained in Program Status

Miscellaneous Well Construction Work	All Required	$ 4,000.00
	Subtotal	$ 4,000.00
	10% Engr. & Cont.	400.00
	Total	$ 4,400.00

SUMMARY OF FUNDS

Description	Total Cost	Federal Funds	State Funds
Well Construction	$31,227.00	$28,000.00	$3,227.00
Retained in Program	4,400.00	4,000.00	400.00
	$35,627.00	$32,000.00	$3,627.00

State Funds for Const.: Chap. 175, Laws 1917; Chap. 31, Laws 1920;
Chap. 529, Laws 1939.
State Funds for Maint.: Chap. 529, Laws 1939.

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MAY 19 1969
FOR FILING

I-SCN-6(35)228
7197

AGENDA
APR 22 1969
3Q

Bid Jan 9, 1969

January 30, 1969

AGENDA
[illegible]
3N

R. J. Strasser Drilling Co.
8110 S.E. Sunset Lane
Portland, Oregon 97206

Gentlemen:

The State Highway Commission on January 14, 1969, accepted your proposal for well exploration in the Deadmans Pass Safety Rest Area on the Old Oregon Trail in Umatilla County for the sum of $28,388.50 and referred it to the State Highway Engineer with authority to award the contract as soon as approval of the Bureau of Public Roads was received.

Approval was given by the Bureau of Public Roads and the State Highway Engineer on January 29, 1969, awarded you the project, which has been assigned Contract No. 7197.

Enclosed are three copies of this contract. Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The calendar workday count on this contract will begin March 1, 1969, as outlined in Article S-7, Paragraphs 4 and 5, under General Special Provisions and superseding Paragraph S-7 under Section S of the Special Provisions.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Enclosures
bc: Pacific Builder & Engr., Inc., Seattle, Wash.
    Daily Journal of Commerce, Seattle, Wn., & Portland, Ore.
    J. C. Hiatt
    A. F. Parson
    Frank Morgan
    D. J. Barbee
    I. D. Merchant
    C. D. Matthis (SIAC)   Roy Olson

RECEIVED
DEC 23 1968

FOR FILING

I-80N-6(35)228
7199

BUREAU OF PUBLIC ROADS

LETTER OF APPROVAL AND/OR AUTHORIZATION

TO:
MR. FORREST COOPER
STATE HIGHWAY ENGINEER
SALEM, OREGON

PROJECT: I-80N-6(35)228

SECTION: DEADMAN'S PASS SAFETY REST AREA

WORK : WELLS AND EXPLORATION

COUNTY : UMATILLA

FROM: R. E. SIMPSON, DIVISION ENGINEER
SALEM, OREGON

DATE PS&E APPROVED: DECEMBER 18, 1968

DATE AUTHORIZED: DECEMBER 18, 1968

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW:

☒ CONSTRUCTION - ADVERTISE FOR BIDS.
○ RIGHT OF WAY.
○ OTHER (SPECIFY).
○ UTILITY ADJUSTMENT.
○ RIGHT OF WAY INCIDENTALS AND RELOCATION PAYMENTS.

REMARKS AND LIMITS OF AUTHORITY:

MR. YOUNG'S DECEMBER 12, 1968 REQUEST AND CERTIFYING STATEMENTS ARE ACCEPTED. PS&E DOCUMENTS FOR SUBJECT PROJECT HAVE BEEN REVIEWED AND ARE HEREBY APPROVED.

INFORMATION ON SPECIAL MEASURES BY STATE CONSERVATION AGENCIES HAS NOT BEEN RECEIVED, NOR HAS NONCONCURRENCE BY OTHER APPROPRIATE PUBLIC RECREATIONAL OR HISTORICAL RESOURCES AUTHORITIES. PRIOR TO BID OPENING DATE YOU SHOULD ADVISE THIS OFFICE OF ANY CLEARANCE RECEIVED OR WITHDRAW THE PROJECT FROM THE LETTING.

A SIGNED COPY OF THE TITLE SHEET IS RETURNED HEREWITH.

NOTED
F. B. KLABOE

RECEIVED
DEC 23 1968
OFFICE OF
STATE HIGHWAY ENGINEER

OFFICE USE
12-23-68
REFERRED TO
STATE HWY. ENG.

DATE: 12-18-68

SIGNATURE OF APPROVING OFFICIAL: For R.E. SIMPSON

TITLE: DIVISION ENGINEER

RECEIVED
DEC 1968

UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
477 Cottage Street, NE
Salem, Oregon 97301

I-80N-6(35)228
7197

Klabo

DATE: December 10, 1968

In reply refer to: 08-35.EC/710.11

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Federal-aid Interstate Program

Mr. Young's August 28, November 1 and November 13, 1968 letters requested the inclusion of six Interstate Items in this program. Until today we have been restricted from processing these program items pending resolution of the requirements of Mr. Bridwell's August 30, 1968 letter. Therefore, these Stage 2, Construction Phase projects are approved effective today:

Item	Project	Location	Work
549	I-405-8(21)302	NW Johnson-SW Montgomery	Landscaping
~~550~~	~~I-80N-6(35)228~~	~~Deadman's Pass Rest Area~~	~~Drill wells~~
551	I-80N-6(36)268	Ladd Canyon Rest Area	Drill wells
552	I-80N-5(33)187	Stanfield-Pendleton Sec.	Guardrail & cattle guards
553	I-80N-6(39)233	Emigrant Park-Glover Sec.	Cattle guards
554	I-5-5(44)285	E. Port. Frwy-Wilsonville Section	Grade, pave 3 structures

It is understood that no improvements with regard to right of way are involved on the above projects, therefore the requirements of IM 80-1-68 are satisfied.

On Items 550 and 551, I-80N-6(35)228 and I-80N-6(36)268 the drilling of wells is recognized as Stage Construction for future rest areas.

On Items 552 and 553, I-80N-5(33)187 and I-80N-6(39)233 the individual locations of the guardrail and cattle guards will be approved on the basis of the data accompanying the P.S. & E.

12-12-68

REFERRED TO
Young
Hwy. Engr.

(more)

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

On Item 554, I-5-5(44)285 E. Portland Freeway-Wilsonville Section, you are authorized to proceed with utility preparatory work effective today. The credit for Interstate funds involved in the existing structures will be approved at the P.S. & E. Stage.

This action provides for improvement on 4.48 miles of Interstate Highway at a total estimated cost of $5,474,000 of which $5,085,600 is reserved as Federal-aid Interstate Program funds.

RECEIVED
DEC 12 1968
OFFICE OF
STATE HIGHWAY ENGINEER

MONTHLY TRANSACTION NO.	FORM PR-1 (REV. 4-61)
DATE SUBMITTED TO W.O.	

FEDERAL - AID

(PPM

CARD 2	REPORT NUMBER 1 (19) (20)	PROJECT LOCATION *(45 typewriter spaces)* I-80N 19.0 mi. S.E. of Pendleton 21 65	**ADT**	PRESENT 2,950	FUTURE 5,400 (66) (70)	YEA 8 (71)

CARD 3	CHARACTER OF PROPOSED WORK *(35 typewriter spaces)* Drilling Wells for Rest Areas 28 62	NATL. FOREST (63) (65)	FH ROUTE NO. (66) (68)	SUPV AGCY (69)	DA CLASSIF. (70)	DA AREA (71)	EMERG. YR. (72) (73)	PL. AUT (74)

CARD 4	CLASS OF FEDERAL FUNDS Interstate	COUNTY NAME
	NAME OF URBAN AREA 17-31	ROUTE NO. I- | FEDERAL-AI I-80N

CARD 5	LINE NO.	CHANGE CODE	PROJECT CODE	WORK CLASS	WORK TYPE	WORK STEP	TERMINI *(Full description)*	MILES	ESTIMATED PROJECT C TOTAL ESTIMATED COST	FEDERAL FUNDS
1	(1415)	(16	41	42	43 46	53		(54) (58)	(59) (66)	(67)
5					**PE**		I-80N 19.0 mi. S.E. of Pendleton (Deadmans Pass Rest Area)			
5					**ROW**					
5					**CONST** (CODE)			0.0	27,000	24,800

CARD 1	CODE 1	PREPARED BY	PROJECT TOTALS	0.0	27,000 (16) (23)	24,800 (24)
1	14	PROGRAM APPROVAL DATES				

For PR-37

7197.

Budget Bureau No. 41-R2067; Approval Expires February 28, 1966

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

ADT PRESENT: 2,950
FUTURE: 5,400
YEAR: 88
REGION: 08
STATE NAME: Oregon
STATE CODE: 35
APPN CODE: 042
ITEM NO.: 550

SUPV AGCY:
DA CLASSIF.:
DA AREA:
EMERG. YR.:
PL. AUTH YR:

PROJECT NUMBER
PREFIX LETTER(S): I-
NUMBER: 80 - 6
SEQ. NO.: (35)

I. Projects Only
POST MI.: 228
DESIG.: N

COUNTY NAME: Umatilla
CODE: 059

ROUTE NO. I-
FEDERAL-AID: I-80N
STATE:
U.S.: I-80N

PROGRAM STAGE: ☐ 1 OR ☒ 2

MILES	ESTIMATED PROJECT COST BY PHASES TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS	CHARACTER OF PROPOSED WORK *(Full description)*
					Drill, test and develop 2 wells to provide potable water for future E. & W. bound rest areas. (Stage construction)
0.0	27,000	24,800	2,200		ROW - 250' normal; Access Control - full; Parking Restrictions - complete.
0.0	27,000	24,800	2,200		

REMARKS: Additional Data - Items 10 and 57, Projects I-80N-6(3)224 and I-80N-6(6)224.

For PR-376; On R/W - 1, ROW - F, Sanitary Facilities - Y.

31-1602 Adams Avenue at Cherry St. 1969
(La Grande) on Old Cregon Trail Hwy.
#7198 (Traffic signals)

CYA 3596

RECEIVED
APR 3 - 1970
FOR FILING

51-1662
7198

Claim 4483

FILED
MAR 24 1970
CLAY MYERS

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

March 23, 1970

Safety Signal Systems, Inc.
4817 W. Marginal Way, S. W.
Seattle, Washington 98106

Attention: Mr. A. T. Matthews
General Manager

Gentlemen:

This is in reply to your letter of March 12 advising us that Steeck Electric Company owes you for poles in the amount of $787.70.

You state this is in reference to the Steeck Electric Company Contract No. 7198 for traffic signal installation on Adams Avenue at Cherry Street in La Grande on the Old Oregon Trail in Union County.

The United Pacific Insurance Company through Don Stathos, Insuror, Inc., 1005 E. Main, Medford, Oregon 97501 furnished the performance bond on this contract. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

NOTED ON CARD
3-26-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc Steeck Electric Co.
United Pacific Insurance Co.
Don Stathos, Insuror, Inc.

Hon. Clay Myers → Please acknowledge receipt of attached claim letter on the enclosed copy of this letter.

VED
MAR 24 8 43 AM '70
RS
STATE

NOTED
C W HEAD

WEst 2-8820

SAFETY SIGNAL SYSTEMS, INC.

TRAFFIC CONTROL and LIGHTING
4817 W. Marginal Way S. W.
Seattle, Washington 98106

March 12, 1970

Oregon State Highway Dept.
Accounting Division
Room 438, Highway Bldg.
Salem, Oregon 97310

REF: Union County, Old Oregon Trail
Adams Ave. at Cherry St.
LaGrande, January 9, 1969

Dear Sir:

We [Safety Signal Systems, Inc.] wish to file claim against Steeck Electric Co., 1046 Court St., Medford, Oregon, Contractor for Subject Job.

Steeck Electric Co. owes us $787.70 for Poles used on Subject Job.

Any help you can give us will be greatly appreciated.

Yours very truly,

A. T. Matthews
A.T. Matthews
Gen. Mgr.

ATM:js

Cec ✓

NOTED
FLOYD QUERY

RECEIVED
DEC 31 1969

31-1662
7198

December 31, 1969

Rogers Asphalt Paving Company
P. O. Box 200
La Grande, Oregon 97850

Attention: Mr. Don Hampton

Gentlemen:

Thank you for your letter of December 22 advising us that Stoeck Electric Company has paid their account in the amount of $125.

Our records indicate this to be in reference to the claim which was filed against the Stoeck Electric Company Contract No. 7198 for a traffic signal installation on Adams Avenue at Cherry Street in La Grande on the Old Oregon Trail in Union County.

This information is being noted in our records and we will advise the surety and the contractor.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc United Pacific Insurance Company
Don Stathos Insurer, Inc.
Stoeck Electric Co.

Commissioners

CWH:fkn

NOTED ON CARD
12-31-69
fw

ROGERS ASPHALT PAVING CO.

P. O. BOX 200 — PHONE 963-3633

LA GRANDE, OREGON
97850

Dec. 22, 1969

Floyd Query, Secretary
Oregon State Highway Commission
Highway Building
Salem, Oregon 97310

Dear Mr. Query,

This is to advise you that the account owed us by Steeck Electric Company, in the amount of $125.00, has been paid.

Thank you for your assistance in this matter.

Yours truly,

Don Hampton

Don Hampton

ROUTED
[illegible]

RECEIVED
DEC 26 1969
OREGON
STATE HIGHWAY COMMISSION

ROGERS ASPHALT PAVING CO.

P. O. BOX 200 — PHONE 963-3633

LA GRANDE, OREGON
97850

Dec. 22, 1969

Floyd Query, Secretary
Oregon State Highway Commission
Highway Building
Salem, Oregon 97310

Dear Mr. Query,

This is to advise you that the account owed us by Steeck Electric Company, in the amount of $125.00, has been paid.

Thank you for your assistance in this matter.

Yours truly,

Don Hampton

Don Hampton

RECEIVED
DEC 26 1969
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
DEC 19 1969
FOR FILING

Claim #4440

FILED
DEC 1[illegible] 1969
CLAY MYERS

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

December 16, 1969

31-1662

7198

Rogers Asphalt Paving Co.
P. O. Box 200
La Grande, Oregon 97850

Attention: Mr. Don Hampton

Gentlemen:

This is to acknowledge receipt of your claim letter of December 5 advising us that Steeck Electric Co. owes you $125 for patching.

From the description given in your letter, this appears to be in connection with the Steeck Electric Co. Contract No. 7198 for a traffic signal installation at the intersection of Adams Avenue and Cherry Street in the city of La Grande on the Old Oregon Trail in Union County.

The United Pacific Insurance Company through Don Stathos, Insuror, Inc., 1005 E. Main, Medford, furnished the performance bond on this contract. We will advise them of the receipt of your claim letter, and we will also forward it to the Secretary of State for filing.

Please advise this office when your claim has been satisfied.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

NOTED ON CARD
12-18-69 CR

cc: United Pacific Insurance Company
Don Stathos, Insuror, Inc.
Steeck Electric Co.
Commission
Hon. Clay Myers - Please acknowledge receipt of this claim on the enclosed copy of this letter.

ROGERS ASPHALT PAVING CO.

P. O. BOX 200 — PHONE 963-3633

LA GRANDE, OREGON
97850

Dec. 5, 1969

Mr. Floyd Query
Sec. Oregon State Highway Dept.
Highway Bldg.
Salem, Oregon 97310

Dear Mr. Query,

We are writing at the suggestion of Mr. Starkey who is employed at the Oregon State Highway office in La Grande, Oregon, in regards to an account owed us by Steeck Electric Co. P. O. Box 1243 Medford, Oregon.

This account in the amount of $125.00 involves patching at the new stop light installed on Adams Ave. Contract No. 7198 in La Grande, Oregon.

The work was completed in August and to date we have not received payment or heard from Steeck Electric Company. It is our understanding this was a bonded job and we were wondering how to collect this account.

Any information you can supply regarding this matter would be greatly appreciated.

Thank you.

Yours truly,

Don Hampton

Cc ✓

RECEIVED
OCT 10 1969
FOR FILIN.

31-1602

7198

October 10, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed August 28, 1969, on Contract No. 7198. The contract was with Stanek Electric Company and was for a traffic signal installation on the Adams Avenue at Cherry Street (La Grande) Section of the Old Oregon Trail Highway in Union County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective October 10, 1969, and that you concur in this procedure at the Commission meeting on November 18.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
F. B. Klaboe
Victor D. Wolfe
V. E. Skoog
Ivan Merchant
F. D. Morgan
L. H. Young
H. S. Coulter

srb

RECEIVED
OCT 10 1969
FOR FILING

31-1602

7198

October 10, 1969

United Pacific Insurance Company
Fidelity and Surety Department
P. O. Box 1216
Tacoma, Washington 98401

Gentlemen:

Contract No. 7198 awarded to Steock Electric Company for traffic signal installation on Adams Avenue at Cherry Street in La Grande on the Old Oregon Trail in Union County was completed on August 28, 1969, and accepted by the Highway Commission on October 10, 1969.

Final payment in the amount of $421 will be released to the contractor after October 17, 1969. The total contract amount is $8,275 and no work was performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

flm

cc Steock Electric Company
1046 Court Street
Medford, Oregon 97501

H. S. Coulter
Frank Morgan
V. E. Skoog
Attn: John Herr

31-1602 7198

FORM E-1 (REV 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: ADAMS AVE. at CHERRY STREET (LA GRANDE)
WEEK ENDING: September 6th, 1969
SECTION PREFIX: 31-1602
HIGHWAY: Old Oregon Trail
COUNTY: Union
NAME OF JOB: Adams Ave. at Cherry Str. (La Grande)
KIND OF WORK: Traffic Signal Installation
CONTRACTOR: Steeck Electric Co.,
CONTRACT NUMBER: 7198
FEDERAL AID PROJECT NUMBER: State
DATE OF CONTRACT: February 10th, 1969
DATE WORK STARTED: August 18th, 1969
ESTIMATED COMPLETION DATE: August 28th, 1969
AVERAGE FORCE ON PROJECT FOR THE WEEK: MEN: 0 SUPERVISION 0
SPECIFIED WORK DAYS
WORK DAYS USED
SPECIFIED CALENDAR DAYS 180
CALENDAR DAYS USED 186
SPECIFIED COMPLETION DATE
PERCENT OF TIME ELAPSED
PROJECT AUTHORIZATION: $ 10,213.40
PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST 100%
EXCLUSIVE OF ENGINEERING: $ 9,321.40
ENGINEERING AUTHORIZATION $ 892.00
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING $ 8,775.00
ENGINEERING COST TO DATE $ 740.00
PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION 98%
ESTIMATED PERCENT: ~~OVERRUN~~ UNDERRUN 6 %
PERCENT OF AUTHORIZATION 83 %
DATE PROJECT WAS COMPLETED: August 28th, 1969
Semi-final will be completed 9/12/69

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)					
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE					
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY				
MONDAY				M
TUESDAY				3
WEDNESDAY				BEN GIFFORD
THURSDAY				69
FRIDAY				NOTED
SATURDAY				R. D. CHURCH

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY	
MONDAY	
TUESDAY	Bill Zirbes, signal engineer, checked the controller cabinet and put signals in operation at approximately 2:00 PM.
WEDNESDAY	
THURSDAY	
FRIDAY	
SATURDAY	

REMARKS

FINAL REPORT

J. C. Hiatt, Res. Eng.
by

SIGNED ____________ LOCATION La Grande

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

SP-F216

RECEIVED
APR 22 1969
FOR FILING

31-166R

7198

C

February 10, 1969

Bid Jan 9

Steeck Electric Company
1046 Court Street
Medford, Oregon 97501

AGENDA
MAR 11 1969
31

Gentlemen:

The State Highway Commission on January 14, 1969, accepted your proposal for installation of traffic signals on Adams Avenue at Cherry Street in the City of La Grande on the Old Oregon Trail in Union County for the sum of $8,420.00 and referred it to the State Highway Engineer with authority to award the contract as soon as certain conditions have been satisfied.

Those conditions were fulfilled and the State Highway Engineer today awarded you the project, which has been assigned Contract No. 7198.

Enclosed are three copies of this contract. Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The calendar day count on this contract will begin February 24, 1969.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Enclosures
bc: Pacific Builder & Engr., Inc., Seattle, Wash.
    Daily Journal of Commerce, Seattle, Wn., & Portland, Ore.
    J. C. Hiatt
    A. F. Parson
    Frank Morgan
    D. J. Barbee
    I. D. Merchant
    C. D. Matthis (SIAC)

City of La Grande

ON THE OLD OREGON TRAIL

A GOOD PLACE TO LIVE

IN THE GRANDE RONDE VALLEY - THE BLUE MOUNTAINS - NORTHEASTERN OREGON

FROM THE OFFICE OF THE CITY MANAGER
La Grande, Oregon

FEB 7 - 1969

31-1662

1194

February 5, 1969

Mr. Tom Edwards
Assistant State Highway Engineer
Highway Building
Salem, Oregon 97310

Dear Mr. Edwards:

Check number 4636 in the amount of $5,127.00, is enclosed to cover the City's share of installation of a traffic signal at the intersection of Cherry & Adams.

Very truly yours,

Murray D. Snyder

Murray D. Snyder
City Manager

MDS/mc

Encl: $5,127.00

Check & copy ltr
Maiam

Copy. ltr. to Bud- Pls Proceed
2-7-69

NOTED
TOM EDWARDS

RECEIVED
FEB 6 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
SEP 26 1968

FOR FILING

31-1602

7798

4i

MISC. CONTRACTS and
AGREEMENTS No. 5596

August 22, 1968

City of LaGrande
City Hall
LaGrande, Oregon 97850

Agreement [illegible]
Aug 22 1968

Attention: F. C. McShane
City Recorder

Gentlemen:

Attached for your records is a fully executed copy of an agreement covering the installation of traffic signals at the intersection of Adams Avenue and Cherry Street with the Old Oregon Trail.

We have retained a fully executed copy for the Commission's files.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

wln
Attachment

cc F. B. Crandall
(xerox of agreement)

RECEIVED
AUG 14 1968

31-1602

7198

August 13, 1968

Oregon State Highway Commission

Gentlemen:

An agreement has been prepared and executed with the City of LaGrande for the installation of traffic signals at the intersection of Adams Avenue and Cherry Street in that city.

This agreement provides that the State shall do the work on the project with the City agreeing to pay one-half the cost, maintain the installation and pay for electrical energy. The total estimated cost of this installation is $8,000; the State's share to be taken from Minor Betterment Funds.

Your approval of the agreement and authority for the Secretary to sign for and on your behalf is recommended.

This matter will be on the agenda for your consideration at the August 20 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

R. L. Porter
Deputy State Highway Engineer

VPJ:njc lms
bc:
- Floyd Query
- Tom Edwards
- Victor D. Wolfe
- F. B. Crandall
- E. S. Hunter
- H. S. Cox
- J. J. Gix
- A. F. Parson

136-1603 Main Street at Bridge Street 1969
(Sheridan) on Willamina-Sheridan
#7199 Hwy. (Traffic signals)

OxH 3501

RECEIVED
DEC 24 1969
FOR FILING

136-1603
7199

3g

(8)

November 26, 1969

Steeck Electric Company
1046 Court Street
Medford, Oregon 97501

Gentlemen:

The State Highway Commission at its meeting on November 18, 1969, considered your request for an additional four calendar days on Contract No. 7199 for a traffic signal installation on Main Street at Bridge Street in Sheridan on the Willamina-Sheridan Highway in Yamhill County.

Careful consideration was given to the reasons you submitted. However, in light of the available facts and the provisions of the contract, the Commission denied your request.

If there are pertinent facts which have not yet been considered, you should contact the Resident Engineer, the Division Engineer, or the Construction Engineer in the Salem Office.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By
C. W. Head, Assistant Secretary

cr

bc: F. D. Morgan
    I. D. Merchant
    V. E. Skoog
    L. W. Bulien
    Enrique Rodriquez

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request

for

Increase in Number of Workdays

to

Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 7199 Contractor Steeck Electric Co.

Highway Willamina - Sheridan

Section Main St. at Bridge St. (Sheridan)

Kind of Work Traffic Signal Installation

It is recommended that the request for increase in the number of workdays within which to complete said contract be **DENIED** or **GRANTED**. The reasons for such recommendation are as follows:

Recommend the request be denied. Delivery of materials in ample time to complete the contract work within time allotted is contractor's responsibility.

Recommended for Approval:

Asst Division Engineer

Ivan V. Merchant
Construction Engineer or
Bridge Engineer

Tom Edwards
Asst State Highway Engineer

[illegible]

Contract No.	7199 ✓
Project designation	State ✓ State-Federal
Date awarded	January 21, 1969 ✓
Work started	April 29, 1969 ✓
Per cent completed	100 %, August 5, 1969 ✓ Date
No. of Workdays Allowed	180 ✓
No. of Workdays Used	184 ✓
No. of Added Workdays Requested	4

E-320 (Rev.)—5M—9-64

OREGON STATE HIGHWAY COMMISSION

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon 97310

Date ~~Septx~~ August 26, 1969

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from 180 days to 184 days, within which to complete our Contract No. 7199, without the assessment of liquidated damages. The said contract is described as follows:

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows:

ti

We respectfully submit our request for four (4) additional days; this extra time was needed due to the non-arrival of material on the job site which arrived too late for us to complete the contract in the allotted time. Our Purchase Order will verify the date which we ordered this material. This material was shipped to us in partial shipments, plus wrong material was sent thus causing the delay. We submit that this delay was beyond our control and we feel that the four days extension of time should be granted.

Respectfully submitted,

STEECK ELECTRIC CO.
Contractor

By Herman Steeck
HERMAN STEECK, Owner

CONSENT OF SURETY

Date *September 19*, 19*69*

We, *United Pacific Insurance Company*
P.O. Box 1788, Eugene, Oregon, as

surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

Don Stathos
Attorney-in-fact
Don Stathos

Resident Agent

(SEAL)

UNITED PACIFIC INSURANCE COMPANY
A MEMBER OF UNITED PACIFIC INSURANCE GROUP
HOME OFFICE: TACOMA, WASHINGTON 98401
FIDELITY AND SURETY DEPARTMENT

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS:

That the UNITED PACIFIC INSURANCE COMPANY, a corporation of the State of Washington, having its principal offices in the city of Tacoma, Washington, pursuant to authority granted by By-Law No. 37-A of its By-Laws, which reads as follows:

"The President, any Executive Vice-President, any other Vice-President, any Assistant Vice-President, or any Resident Vice-President of this Corporation, shall have authority to appoint in writing such attorneys-in-fact as the business of the Company may require, and to authorize such attorneys-in-fact, and each of them, to execute on behalf of the Company, any bonds, recognizances, stipulations, contracts of indemnity and other undertakings of like character, or to exercise any lesser number of said powers as hereinbefore set forth.

"Said appointments shall be attested by the Secretary or an Assistant Secretary of this Corporation under its seal. The signature of the Secretary or any Assistant Secretary to certified copies of such powers of attorney may be original or facsimile, and when the corporate seal is affixed thereto, any third party may rely on said certified copies of powers of attorney as the act and deed of this Corporation. The President, any Executive Vice-President, any other Vice-President, any Assistant Vice-President, or any Resident Vice-President may revoke any appointment made pursuant hereto, and revoke any and all authority conferred by any such appointment."

does hereby nominate, constitute and appoint DON STATHOS of MEDFORD, OREGON

its true and lawful Attorney-in-Fact, to make, execute, seal and deliver for and on its behalf, as surety, and as its act and deed,

ANY AND ALL BONDS AND UNDERTAKINGS OF SURETYSHIP.

The execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Company, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the Company at its office in Tacoma, Washington, in their own proper persons.

IN WITNESS WHEREOF, the UNITED PACIFIC INSURANCE COMPANY has caused these presents to be signed by its ________ Vice-President and its corporate seal to be hereto affixed, duly attested by its Assistant Secretary, this 29th day of November, 19 61.

UNITED PACIFIC INSURANCE COMPANY

Attest: s/ RUTH ENSTONE
Assistant Secretary

By s/ MORRIS E. BROWN (SEAL)
Vice-President

STATE OF WASHINGTON
County of PIERCE } ss.

On this 29th day of November, 19 61, personally appeared MORRIS E. BROWN and RUTH ENSTONE, to me known to be the ________ Vice-President and Assistant Secretary, respectively, of UNITED PACIFIC INSURANCE COMPANY, and acknowledged that they executed and attested the foregoing instrument and affixed the seal of said corporation thereto, and that By-Law No. 37-A, set forth therein, is still in full force.

Witness my hand and seal hereto affixed the day and year first above written.

My Commission Expires January 18, 19 73.

s/ S. W. HOPKINS
Notary Public in and for the State of Washington
Residing at Tacoma

STATE OF WASHINGTON
County of PIERCE } ss.

I, GERRY L. WHITE Assistant Secretary of the UNITED PACIFIC INSURANCE COMPANY, do hereby certify that the foregoing instrument is a true copy of a Power of Attorney duly and regularly issued by said Company, and that the same is still in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Company at the City of TACOMA this 19th day of September, 19 69.

Gerry L White (SEAL)
Assistant Secretary

B-1027A General — Power of Attorney Rev. 11-66

[illegible]
[illegible] CO.
[illegible]
[illegible]
[illegible]
[illegible], CALIF.

PURCHASE ORDER No. [illegible]

Date [illegible]

Ship To [illegible]
[illegible]
[illegible]

TO [illegible]
36[illegible] ALBION PLACE N.
SEATTLE, WASHINGTON 98103

SHIP VIA	F.O.B.	TERMS	DELIVERY REQUIRED
[illegible]			A.S.A.P. [illegible]

QUANTITY	DESCRIPTION	PRICE	
	OREGON STATE HIGHWAY TRAFFIC INSTALLATION SHERIDAN, OREGON		
	[illegible]		
	[illegible]		
	[illegible]		
	[illegible]		
1	[illegible]		
	[illegible]		
	[illegible]		
	[illegible]		
	[illegible]		
	[illegible]		
	[illegible]		

By [illegible]

FORM E-30 (12-67)

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97202
October 2, 1969

SUBJECT: Traffic Signal Installation
Main Street @ Bridge Street
(Sheridan)
Contract No. 7199

To: Mr. I. D. Merchant
Bridge Engineer
Salem

Enclosed find a request from the contractor on the subject project for an increase in time in which to complete work on the project without assessment of liquidated damages. This contract was awarded on January 21, 1969. The contractor commenced work on April 29, 1969 and work was completed on August 5, 1969. There were 180 calendar days set up; the contractor used 184 days.

The project involved signalization of one intersection with a fixed time system. After the contract was advertised, it was revised prior to the date for taking bids to provide for utilization of a State-furnished controller.

The basis for the contractor's request is non-arrival of the signal heads. In past projects, the problem has been getting the control equipment; but, as far as I know, there has not been a problem with the signal heads. The time allowed should have been more than adequate, particularly considering the deletion of furnishing the control equipment from the project.

Under the terms of the contract, I can see no basis for granting the additional time and concur with Resident Engineer Rodriguez' recommendation that the request be denied.

L. W. Rulien
Division Engineer

by Allan C Harwood
A. C. Harwood
Assistant Division Engineer

ACH:nlb
Encl.
cc: E. Rodriguez

FORM 2-30 ...

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Aloha, Oregon 97005

September 24, 1969

To: Mr. L. W. Rulien
Division Engineer
Portland, Oregon

SUBJECT: Contractor's Request for Increase in
Number of Work Days
Main St. at Bridge St. (Sheridan)
Yamhill County
Contract No. 7199

Attention: Mr. A. C. Harwood

Enclosed please find five (5) copies of "Contractor's Request for Increase in Number of Workdays to Complete Construction Contract " for subject project.

The contractor is requesting four (4) additional days without penalty because the material was late in arriving at the jobsite. Although this is true of the signal heads, this is not a qualified reason, as per the Special Provisions, for an adjustment of the contract time.

If the contractor has a claim, it should be against the supplier and not State as no delays or changes causing extra work can be attributed to the State.

It is my recommendation that this request for additional time without the assessment of liquidated damages be denied.

E. Rodriguez

E. Rodriguez
Resident Bridge Engineer

Encl.
cc file
ER/kca

☐ DE ☐ ADE ☐ ADE ☐ OE
SEP 24 1969
☐ TE ☐ UE ☐ DES

RECEIVED
OCT 31 1969
FOR FILING

136-1003
7199

October 31, 1969

United Pacific Insurance Company
Fidelity & Surety Department
P. O. Box 1216
Tacoma, Washington 98401

Gentlemen:

Contract No. 7199 awarded to Steeck Electric Co. for a traffic signal installation on Main Street at Bridge Street in the city of Sheridan on the Willamina-Sheridan Highway in Yamhill County was completed on August 5, 1969, and accepted by the Highway Commission on October 30, 1969.

Final payment in the amount of $546.48 will be released to the contractor after November 7, 1969. The total contract amount is $5,162.78 including $172.78 for work performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

er

cc: Steeck Electric Co.
1046 Court Street
Medford, Oregon 97501

Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Kerr
L. W. Dulien

RECEIVED
NOV 1 - 1969
FOR FILING

136-1603
7199

Salem, Oregon
October 31, 1969

Contract No. 7199
Main St. at Bridge St. (Sheridan)
Prefix 136-1603

MEMO TO THE FILES

State Force Order No. 2, for the estimated amount of $500, approved minor traffic signal interconnect to be done by our State forces. The additional work was requested by the City of Sheridan and the cost will be charged 100 per cent (100%) to the City.

The prefix 7931-566 was assigned since this work is being performed for other than the State. This procedure was approved and the prefix assigned by the Accounting Division.

Vince Gallagher
Contract Payments Engineer

VG:fw

cc John Bond

RECEIVED
OCT 31 1969
FOR FILING

136-1663

7199

October 30, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed August 3, 1969, on Contract No. 7199. The contract was with Steeck Electric Company and was for a traffic signal installation on the Main Street at Bridge Street (Sheridan) Section of the Willamina-Sheridan Highway in Yamhill County.

As the contractor has completed all work according to specifications, we recommend that you accept the project effective October 30, 1969, and that you concur in this procedure at the Commission meeting on November 18.

It is assumed that if you have no objections to this action and you do not advise to the contrary, we may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

R. L. Porter
Deputy State Highway Engineer

cc Floyd Query
Tom Edwards
F. B. Klaboe
Victor D. Wolfe
V. E. Skoog
Ivan Merchant
L. E. Young
F. D. Morgan
L. W. Rulien

srb fn

RECEIVED
OCT 22 1969

[illegible]

136-1603

7199

October 22, 1969

Oregon State Highway Commission

Gentlemen:

Request for Extension of Time
No. 8
November 18, 1969 meeting

Staech Electric Company, contractor for the traffic signal project on Main and Bridge Streets in Sheridan on the Willamina-Sheridan Highway in Yamhill County, Contract 7199, has requested that it be granted an additional four calendar days to complete the contract work without assessment of liquidated damages. The contractor contends that late delivery of certain materials prevented him from completing the work on time.

The contract was awarded January 21, 1969, and allotted 180 calendar days to complete the work. The work was completed August 5, 1969, with 184 days charged. This is an overrun of four days.

The materials in question (the vehicle and pedestrian signal heads and their associated framework and fittings) are not considered critical materials and should have been readily available to the contractor.

The delivery of materials is not a reason for an extension of time without assessment of liquidated damages.

I recommend the request be denied and that the contractor be assessed liquidated damages for the excess time consumed. This amounts to an assessment of $120.

This matter will be on the agenda for your consideration at the November 18 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
V. D. Wolfe
Ivan Merchant
F. D. Morgan
V. E. Skoog L. W. Rulien
CAG:dh sr

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 7199 Contractor Steeck Electric Co.

Highway Willamina - Sheridan

Section Main St. at Bridge St. (Sheridan)

Kind of Work Traffic Signal Installation

It is recommended that the request for increase in the number of workdays within which to complete said contract be **DENIED** or **GRANTED**. The reasons for such recommendation are as follows:

Recommend the request be denied. Delivery of materials in ample time to complete the contract work within time allotted is contractor's responsibility.

Recommended for Approval:

Asst Division Engineer

Construction Engineer or Bridge Engineer

State Highway Engineer

Contract No. 7199
Project designation State
Date awarded January [illegible], 1969
Work started April 29, 1969
Per cent completed 100 %, August 5, 1969
No. of Workdays Allowed 180
No. of Workdays Used 184
No. of Added Workdays Requested 4

[illegible]

[illegible] (Rev.)—[illegible]

RECEIVED
OREGON STATE HIGHWAY DEPT.
BRIDGE DIVISION
AM OCT 6 1969 PM
7,8,9,10,11,12,1,2,3,4,5,6

OREGON STATE HIGHWAY COMMISSION

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon 97310

Date August 26, ~~Sept~~ 1969

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from 180 days to 184 days, within which to complete our Contract No. 7199, without the assessment of liquidated damages. The said contract is described as follows:

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows:

We respectfully submit our request for four (4) additional days; this extra time was needed due to the non-arrival of material on the job site which arrived too late for us to complete the contract in the allotted time. Our Purchase Order will verify the date which we ordered this material. This material was shipped to us in partial shipments, plus wrong material was sent thus causing the delay. Se submit that this delay was beyond our control and we feel that the four days extension of time should be granted.

Respectfully submitted,

STEECK ELECTRIC CO.
Contractor

By Herman Steeck
HERMAN STEECK, Owner

CONSENT OF SURETY

Date *September 19*, 1969

We, *United Pacific Insurance Company*
P.O. Box 1788, Eugene, Oregon, as

surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

Don Stathos
Attorney-in-fact
Don Stathos

(SEAL)

Resident Agent

RECEIVED
FEB 26 1969
FOR FILING

136-1603
7199

January 22, 1969

Steeck Electric Co.
1046 Court Street
Medford, Oregon 97501

Gentlemen:

The State Highway Commission on January 14, 1969, accepted your proposal for installation of traffic signals on Main Street at Bridge Street in the City of Sheridan on the Willamina-Sheridan Highway in Yamhill County for the sum of $5,110.00 and referred it to the State Highway Engineer with authority to award the contract as soon as certain conditions have been satisfied.

Those conditions were fulfilled and the State Highway Engineer on January 21, 1969, awarded you the project which has been assigned Contract No. 7199.

Enclosed are three copies of this contract. Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The calendar day count on this contract will begin February 3, 1969.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

sr
Enclosures
bc: Pacific Builder & Engr., Inc., Seattle, Wash.
Daily Journal of Commerce, Seattle, Wn., & Portland, Ore.
Enrique Rodriques
L. W. Rulien
Frank Morgan
D. J. Barbee
I. D. Merchant
C. D. Matthis (SIAC)

RECEIVED
JAN 17 1969

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

[illegible]

January 14, 1969

Mr. R. D. Wells
City Recorder
City Hall
Sheridan, Oregon 97378

Dear Mr. Wells:

On January 9 bids were opened on the traffic signal installation at the intersection of Main and Bridge Streets in Sheridan.

The low bid was $5,110. To this must be added engineering and contingencies in the amount of 12½ percent of the low bid and the cost of the State-furnished controller, which was $781. The present estimated cost then becomes $6,530. By the terms of the agreement, the City is to submit its check for 10 percent of the total cost prior to the award of the contract.

If you will submit the City's check in the amount of $653, we will proceed to award the contract.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

Tom Edwards
Assistant State Highway Engineer

copy to Bud- Proceed
1-17-69

Dear Sirs: Enclosed please find our check in the amount of $653.00 for the city's initial cost of the contract.

R. D. Wells
City Recorder

Ck #907 in amt of $653 + copy to Accounting
1-17-69

NOTED
TOM EDWARDS

RECEIVED
JAN 17 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
FEB 20 1968

FOR FILING

136-1603
7199

MISC. CONTRACTS and
AGREEMENTS No. 3501

4Q

January 26, 1968

1-23-68

City of Sheridan
City Hall
Sheridan, Oregon 97378

Attention: Mr. Robert D. Wells
City Recorder

Gentlemen:

Attached for your files is a fully executed copy of an agreement covering installation of a traffic signal at the intersection of Main Street with the Willamina-Sheridan Highway in your city.

A fully executed copy has been retained for the Commission's files.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fkm
Attachment

cc Mr. F. B. Crandall
(conformed copy)

RECEIVED
JAN 19 1968

FOR FILING

136-1603

7199

January 17, 1968

6119

Oregon State Highway Commission

Gentlemen:

The City of Sheridan has long been concerned about the accident potential at the intersection of Main Street with the Willamina-Sheridan Highway (Secondary Highway No. 157) in that town.

There is warrant for a traffic signal installation at that intersection; however, the City is unable, by reason of its limited resources, to participate in a one-payment fifty-fifty split of the costs of installation. The City's tax base is such that it can participate to this extent if it is allowed the privilege of deferred payments. In the interest of safety, we recommend to you that the City be permitted to make its payments on this basis.

The estimated total cost of the traffic signal installation is $7,500. The City will pay five equal payments of $750, the first payment to be made at the time of the award of the contract and the remaining four payments to be made annually thereafter.

I recommend your approval of this enabling agreement and request authority for the Secretary to sign the agreement for and on your behalf.

This matter will be on the agenda for your consideration at the January 23 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
Victor D. Wolfe
F. B. Crandall
L. H. Young
C. H. Maison
H. S. Cox
R. D. Asburry

TE:ja jes

9-1607 E. Third St. at Revere St. (Bend)1969
on The Dalles-Calif. Hwy.
#7200 (Traffic signals)

C4A 3667

C

RECEIVED
APR 3 - 1970
FOR FILING

Claim 4485
FILED
MAR 24 1970
CLAY MYERS

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

9-1167

7200

March 23, 1970

Safety Signal Systems, Inc.
4817 W. Marginal Way, S. W.
Seattle, Washington 98106

Attention: Mr. A. T. Matthews
General Manager

Gentlemen:

This is to acknowledge receipt of your letter of March 12 informing us that Steeck Electric Company owes you for traffic signal equipment in the amount of $3,051.73.

From the description given in your letter, this appears to be in reference to the Steeck Electric Company Contract No. 7200 for traffic signal installation on East Third Street at Revere Avenue in Bend on The Dalles-California Highway in Deschutes County.

The United Pacific Insurance Company furnished the performance bond on this contract. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been satisfied.

Very truly yours,

NOTED ON [illegible]
3-26-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc Steeck Electric Company
United Pacific Insurance Company

Hon. Clay Myers - Please acknowledge receipt of the ✓ attached claim letter on the enclosed copy of this letter.

NOTED
[illegible] HEAD

WEst 2-8820

SAFETY SIGNAL SYSTEMS, INC.
TRAFFIC CONTROL and LIGHTING
4817 W. Marginal Way S. W.
Seattle, Washington 98106

March 12, 1970

Oregon State Highway Dept.
Accounting Division
Room 438, Highway Bldg.
Salem, Oregon 97310

REF: Traffic Signal Installation
E. 3rd at E. Revere Ave. (Bend)
The Dalles, Calif. Hwy., US 20 & 97
Deschutes County, January, 1969

Dear Sir:

We [Safety Signal Systems, Inc.] wish to file claim against Steeck Electric Co., 1046 Court St., Medford, Oregon, Contractor for Subject Job.

Steeck Electric Co. owes us $3,051.73 for Traffic Signal Equipment used on Subject Job. This account has been outstanding since July, 1969.

Any help you can give us will be greatly appreciated.

Yours very truly,

A. T. Matthews

A.T. Matthews
Gen. Mgr.

ATM:js

RECEIVED
OCT 31 1969
FOR FILING

9-1607

7300

October 31, 1969

United Pacific Insurance Company
P. O. Box 1216
Tacoma, Washington 98401

Gentlemen:

On October 17, 1969, we wrote to you concerning release of final payment on Contract No. 7300 awarded to Steeck Electric Company for a traffic signal installation on East 3rd Street at Revere Avenue in Bend.

Final payment on this contract is $599 and the total contract amount is $11,743.29 including $63.29 for work performed under force account.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fm

cc Steeck Electric Company
1046 Court Street
Medford, Oregon 97501

Frank Morgan
Ivan Merchant
J. F. Putnam
V. E. Skoog
Attn: John Herr

RECEIVED
OCT 17 1969

9-1607
7200

October 17, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed August 11, 1969, on Contract No. 7200. The contract was with Steeck Electric Company and was for a traffic signal installation on the East 3rd Street at Revere Avenue (Bend) Section of The Dalles-California Highway in Deschutes County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective October 17, 1969, and that you concur in this procedure at the Commission meeting on November 18.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
F. B. Klaboe
Victor D. Wolfe
V. E. Skoog
Ivan Merchant
L. H. Young
F. D. Morgan
J. F. Putnam

srb sr

RECEIVED
OCT [illegible] 1969
[illegible]

9-1607

7200

October 17, 1969

United Pacific Insurance Company
Fidelity and Surety Department
P. O. Box 1216
Tacoma, Washington 98401

Gentlemen:

Contract No. 7200 awarded to Steeck Electric Company for traffic signal installation on East 3rd Street at Revere Avenue in the City of Bend on The Dalles-California Highway in Deschutes County was completed on August 11, 1969, and accepted by the Highway Commission on October 17, 1969.

Final payment will be released to the contractor as soon as payment processing can be completed, but not before October 24, 1969.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fkm

cc Steeck Electric Co.
1046 Court Street
Medford, Oregon 97501

J. F. Putnam
Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Herr

RECEIVED
NOV 1 - 1969
FOR FILING

9-1607

7200

Comm
3i-3

October 1, 1969

Steeck Electric Company
1046 Court Street
Medford, Oregon 97501

Gentlemen:

The State Highway Commission at its meeting on September 30 considered your request for an additional ten calendar days to complete Contract No. 7200 for traffic signal installation on East Third Street at Revere Avenue in Bend, Deschutes County.

Careful consideration was given to the reasons you submitted. However, in light of the available facts and the provisions of the contract, the Commission denied your request.

If there are pertinent facts which have not yet been considered, you should contact the Resident Engineer, the Division Engineer, or the Construction Engineer in the Salem Office.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

sj
cc F. D. Morgan
Ivan Merchant
V. E. Skoog
J. F. Putnam
W. W. Robertson

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 7200 Contractor Steeck Electric Co.

Highway The Dalles-California

Section E. 3rd St. at Revere Ave. (Bend)

Kind of Work Traffic Signal Installation

It is recommended that the request for increase in the number of workdays within which to complete said contract be **DENIED** or **GRANTED.** The reasons for such recommendation are as follows:

Assess ten days liquidated damages ($300.00) because nondelivery of materials is not a reason for an extension of time without assessment of liquidated damages.

RECEIVED
OREGON STATE HIGHWAY DEPT.
BRIDGE DIVISION
AM [illegible] PM
7,8,9, [illegible]

Recommended for Approval:

J. F. Putnam
Division Engineer

Ivan V. Merchant
~~Construction Engineer or~~
Bridge Engineer

Tom Edwards
asst
State Highway Engineer

Contract No.	7200 ✓
Project designation	State ✓ State-Federal
Date awarded	January 21, 1969 ✓
Work started	March 25, 1969
Per cent completed	~~98%~~ 100% 8-11-69 Date
No. of Workdays Allowed	180
No. of Workdays Used	180
No. of Added Workdays Requested	z 10

State Printing 27920

E-320 (Rev.)—5M—5-60

7,8,9,10,11,12,1,2,3,4,5,6
PM
1969
DIVISION

OREGON STATE HIGHWAY COMMISSION

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon

Date August 6, 19 69

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from 180 days to 190 days, within which to complete our Contract No. 7200, without the assessment of liquidated damages. The said contract is described as follows:

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows: We ordered the vehicle and pedestrian signal heads and framework in January and were promised delivery in May, however, due to shortages of pole clamps, etc., this was delayed until the middle of June with scheduled delivery on June 20. From June 20 on we called continuously for delivery and this was not accomplished by our supplier until August 3, at which time this material arrived in our warehouse; the installation will be completed by the 10th of August. We feel that this was beyond our control and we did everything possible to expedite delivery; we would appreciate your consideration of extra time. We enclose a copy of a letter from our supplier.

Respectfully submitted,

STEECK ELECTRIC CO.
Contractor

By Herman Steeck
HERMAN STEECK, Owner

CONSENT OF SURETY

Date *August 8* 19 *69*

We, *UNITED PACIFIC INSURANCE COMPANY*
Post Office Box 1788, Eugene, Oregon, as

surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

Don Stathos
Don Stathos Attorney-in-fact

(SEAL)

Resident Agent

UNITED PACIFIC INSURANCE COMPANY
A MEMBER OF UNITED PACIFIC INSURANCE GROUP
HOME OFFICE: TACOMA, WASHINGTON 98401
FIDELITY AND SURETY DEPARTMENT

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS:

That the UNITED PACIFIC INSURANCE COMPANY, a corporation of the State of Washington, having its principal offices in the city of Tacoma, Washington, pursuant to authority granted by By-Law No. 37-A of its By-Laws, which reads as follows:

"The President, any Executive Vice-President, any other Vice-President, any Assistant Vice-President, or any Resident Vice-President of this Corporation, shall have authority to appoint in writing such attorneys-in-fact as the business of the Company may require, and to authorize such attorneys-in-fact, and each of them, to execute on behalf of the Company, any bonds, recognizances, stipulations, contracts of indemnity and other undertakings of like character, or to exercise any lesser number of said powers as hereinbefore set forth.

"Said appointments shall be attested by the Secretary or an Assistant Secretary of this Corporation under its seal. The signature of the Secretary or any Assistant Secretary to certified copies of such powers of attorney may be original or facsimile, and when the corporate seal is affixed thereto, any third party may rely on said certified copies of powers of attorney as the act and deed of this Corporation. The President, any Executive Vice-President, any other Vice-President, any Assistant Vice-President, or any Resident Vice-President may revoke any appointment made pursuant hereto, and revoke any and all authority conferred by any such appointment."

does hereby nominate, constitute and appoint DON STATHOS of MEDFORD, OREGON

its true and lawful Attorney-in-Fact, to make, execute, seal and deliver for and on its behalf, as surety, and as its act and deed,

ANY AND ALL BONDS AND UNDERTAKINGS OF SURETYSHIP.

The execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Company, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the Company at its office in Tacoma, Washington, in their own proper persons.

IN WITNESS WHEREOF, the UNITED PACIFIC INSURANCE COMPANY has caused these presents to be signed by its ________ Vice-President and its corporate seal to be hereto affixed, duly attested by its Assistant Secretary, this 29th day of November, 19 61.

UNITED PACIFIC INSURANCE COMPANY

Attest: s/ RUTH ENSTONE
Assistant Secretary

By s/ MORRIS E. BROWN (SEAL)
Vice-President

RECEIVED
HIGHWAY DEPT
BRIDGE DIVISION
AM [illegible] PM
7,8,9,10,11,12,1,2,3,4,5,6

STATE OF WASHINGTON
County of PIERCE } ss.

On this 29th day of November, 19 61, personally appeared MORRIS E. BROWN and RUTH ENSTONE, to me known to be the ________ Vice-President and Assistant Secretary, respectively, of UNITED PACIFIC INSURANCE COMPANY, and acknowledged that they executed and attested the foregoing instrument and affixed the seal of said corporation thereto, and that By-Law No. 37-A, set forth therein, is still in full force.

Witness my hand and seal hereto affixed the day and year first above written.

My Commission Expires January 18, 19 73

s/ S. W. HOPKINS
Notary Public in and for the State of Washington
Residing at Tacoma

STATE OF WASHINGTON
County of PIERCE } ss.

I, GERRY L. WHITE Assistant Secretary of the UNITED PACIFIC INSURANCE COMPANY, do hereby certify that the foregoing instrument is a true copy of a Power of Attorney duly and regularly issued by said Company, and that the same is still in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Company at the City of TACOMA this *8th* day of *August*, 19*69*

Gerry L. White (SEAL)
Assistant Secretary

B-1027A General – Power of Attorney Rev. 11-66

RECEIVED
SEP 11 1969
FOR FILING

9-1607

7200

September 10, 1969

Oregon State Highway Commission

Gentlemen:

Request for Extension of Time
No. 3
September 30, 1969, meeting

Steack Electric Company, contractor for the construction of traffic signals on East 3rd Street at Revere Street (Bend) on The Dalles-California Highway in Deschutes County, Contract 7200, has requested that he be granted an additional ten calendar days to complete the contract work without assessment of liquidated damages. The contractor contends that late delivery of certain materials prevented him from completing the work on time.

The contract allotted 180 calendar days to complete the work which forecast a completion date of August 1, 1969. The work was completed August 11, 1969, with 190 calendar days charged. This is an overrun of ten calendar days.

The materials in question, the vehicles and pedestrian signal heads and their associated framework and fittings, did not arrive on the job until about August 2, 1969, due to delays in the manufacturer's plant. These are not considered critical materials and should have been readily available to the contractor within the time allotted for the contract.

The delivery of materials is not a reason for an extension of time without assessment of liquidated damages.

I recommend that the request be denied and that the contractor be assessed liquidated damages for the excess time consumed. This amounts to $300.

This matter will be on the agenda for your consideration at the September 30 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

R. L. Porter
Deputy State Highway Engineer

cc: Floyd Query
Tom Edwards
Victor D. Wolfe
F. B. Crandall
Ivan Merchant
F. D. Morgan
V. E. Skoog
J. F. Putnam

CAG:dh sr

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request

for

Increase in Number of Workdays

to

Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 7200 Contractor Steeck Electric Co.

Highway The Dalles-California

Section E. 3rd St. at Revere Ave. (Bend)

Kind of Work Traffic Signal Installation

It is recommended that the request for increase in the number of workdays within which to complete said contract be **DENIED** or **GRANTED**. The reasons for such recommendation are as follows:

Assess ten days liquidated damages ($300.00) because nondelivery of materials is not a reason for an extension of time without assessment of liquidated damages.

RECEIVED
OREGON STATE HIGHWAY DEPT.
BRIDGE DIVISION
AM AUG 11 1969 PM
7,8,9,10,11,12,1,2,3,4,5,6

Recommended for Approval:

Division Engineer

Ivan V. Merchant
Construction Engineer or Bridge Engineer

Asst
State Highway Engineer

Contract No.	7200
Project designation (State-Federal)	State
Date awarded	January 21, 1969
Work started	March 25, 1969
Per cent completed	~~98%~~ 100% 8-11-69 (Date)
No. of Workdays Allowed	180
No. of Workdays Used	180
No. of Added Workdays Requested	10

State Printing 37839

E-320 (Rev.)—5M—5-60

7,8,9,10,11,12,1,2,3,4,5,6 PM
SEP 3 1969
BRIDGE DIVISION
HIGHWAY DEPT.

OREGON STATE HIGHWAY COMMISSION

Contractors Request for Increase in Number of Workdays to Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon

Date August 6, 1969

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from 180 days to 190 days, within which to complete our Contract No. 7200, without the assessment of liquidated damages. The said contract is described as follows:

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows: We ordered the vehicle and pedestrian signal heads and framework in January and were promised delivery in May, however, due to shortages of pole clamps, etc., this was delayed until the middle of June with scheduled delivery on June 20. From June 20 on we called continuously for delivery and this was not accomplished by our supplier until August 3, at which time this material arrived in our warehouse; the installation will be completed by the 10th of August. We feel that this was b eyond our control and we did everything possible to expedite delivery; we would appreciate your consideration of extra time. We enclose a copy of a letter from our supplier.

Respectfully submitted,

STEECK ELECTRIC CO.
Contractor

By Herman Steeck
HERMAN STEECK, Owner

CONSENT OF SURETY

Date August 8, 1969

We, UNITED PACIFIC INSURANCE COMPANY
Post Office Box 1788, Eugene, Oregon, as

surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

Don Stathos
Don Stathos Attorney-in-fact

(SEAL)

Resident Agent

9-1667
7200

FORM E-1 (REV. 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: E. 3rd. St. at Revere Ave. (Bend)

WEEK ENDING: Sept. 6, 1969

SECTION PREFIX: ~~9-1667~~ 9-1607

HIGHWAY: The Dalles-California

COUNTY: Deschutes

NAME OF JOB: E. 3rd. St. at Revere Ave. (Bemd)

KIND OF WORK: Traffic Signal Installation

CONTRACTOR: Steeck Electric Co.

CONTRACT NUMBER: 7200

FEDERAL AID PROJECT NUMBER: State

DATE OF CONTRACT: January 21, 1969

DATE WORK STARTED: March 25, 1969

ESTIMATED COMPLETION DATE: Complete

AVERAGE FORCE ON PROJECT FOR THE WEEK:

MEN: SUPERVISION:

SPECIFIED WORK DAYS:

WORK DAYS USED:

SPECIFIED CALENDAR DAYS: 180

CALENDAR DAYS USED: 190

SPECIFIED COMPLETION DATE:

PERCENT OF TIME ELAPSED: 106%

PROJECT AUTHORIZATION: $ 14,060.60

EXCLUSIVE OF ENGINEERING: $ 12,832.60

ENGINEERING AUTHORIZATION: $ 1,228.00

PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 100%

ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 12,832.60

ENGINEERING COST TO DATE: $ 2,354.47

PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 100%

ESTIMATED PERCENT: OVERRUN / UNDERRUN 0 %

PERCENT OF AUTHORIZATION: 192 %

DATE PROJECT WAS COMPLETED: 8/20/69 SF Est. 9/20/69

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD.		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)					
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE					
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY				
MONDAY				
TUESDAY				
WEDNESDAY				
THURSDAY				
FRIDAY				
SATURDAY				

Routing
Morgan
Decker
Bond
Walker
Boehme
Johnsen

RECEIVED
CONSTRUCTION DIVISION
BLN GIFFORD

NOTED
R. D. CHURCH

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY	
MONDAY	
TUESDAY	
WEDNESDAY	
THURSDAY	
FRIDAY	
SATURDAY	

REMARKS

Semi-final estimate will be submitted 9/20/69.

SIGNED W W Robertson LOCATION Bend, Oregon

W. W. Robertson

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

SP*F216

RECEIVED
FEB 26 1969

FOR FILING
9-1667

7200

January 22, 1969

Steeck Electric Co.
1046 Court Street
Medford, Oregon 97501

Gentlemen:

The State Highway Commission on January 14, 1969, accepted your proposal for installation of traffic signals on East 3rd Street at Revere Avenue in the City of Bend on The Dalles-California Highway in Deschutes County for the sum of $11,980.00 and referred it to the State Highway Engineer with authority to award the contract as soon as certain conditions have been satisfied.

Those conditions were fulfilled and the State Highway Engineer on January 21, 1969, awarded you the project, which has been assigned Contract No. 7200.

Enclosed are three copies of this contract. Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The calendar day count on this contract will begin February 3, 1969.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Enclosures
bc: Pacific Builder & Engr., Inc., Seattle, Wash.
Daily Journal of Commerce, Seattle, Wn., & Portland, Ore.
J. F. Putman
Don Pallette
Frank Morgan
D. J. Barbee
I. D. Merchant
C. D. Matthis (SIAC)

RECEIVED
21 1969

9 16 62

7200

1905

CITY of BEND

P. O. BOX 431
PHONE 382-4211

January 17, 1969

Mr. Tom Edwards
Assist. St. Hwy. Engr.
Oregon State Hwy. Dept.
Highway Building
Salem, Oregon 97310

Dear Mr. Edwards:

We have your letter of January 14, in which you give us the results of the bids which were opened on January 9th for the installation of a traffic signal at the intersection of E. 3rd Street and Revere Avenue in Bend. Accordingly we are enclosing herewith City of Bend check in the amount of $6,739 to cover our 50% share of the cost of this installation.

Sincerely,

Julia S Johnson

Julia S. Johnson
Recorder-Treasurer

JSJ:pjb
CC Mr. Forrest Cooper

Check # 9866
in amt of $6,739
& ltr to
a copy of
accounting
+ Copy ltr to
[illegible] [illegible]
to process
1-20-69

Info copies to Young
Cook

NOTED
TOM EDWARDS

RECEIVED
JAN 20 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
JAN 24 1969

FOR FILING

9-1607

7200

HS

MISC. CONTRACTS and
AGREEMENTS No. 3667

12-17-68

December 20, 1968

7036
6970

Mrs. Julia S. Johnson
Recorder-Treasurer
City of Bend
P. O. Box 431
Bend, Oregon 97701

Dear Mrs. Johnson:

Attached for your records is a fully executed copy of an agreement for installation of traffic signals at the intersection of Third and Revere Streets in your city.

We are retaining a fully executed copy of this agreement for the Commission's files.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fkn
Attachment

cc F. B. Crandall
(conformed agreement)

RECEIVED
DEC 3 - 1968

FOR FILING

9-1667

7360

December 3, 1968

Oregon State Highway Commission

Gentlemen:

The City Council of the City of Bend has been under pressure for a considerable time to install traffic signals at the intersection of Third Street, which is the route of The Dalles-California Highway, and Revere Street. We have thoroughly investigated this intersection and find that the warrants for signalization are marginal, but that the accident record is quite high. For this reason, we have negotiated an agreement with the City of Bend for the installation of traffic signals at the intersection of Third and Revere Streets in that city.

This agreement provides that the State shall do the work of the project with the City agreeing to pay one-half the cost, maintain the installation and pay for electrical energy. The total estimated cost of this installation is $14,000; the State's share of $7,000 is to be taken from Minor Betterment Funds.

Your approval of the agreement and authorization for the Secretary to sign is recommended.

This matter will be on the agenda for your consideration at the December 17 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

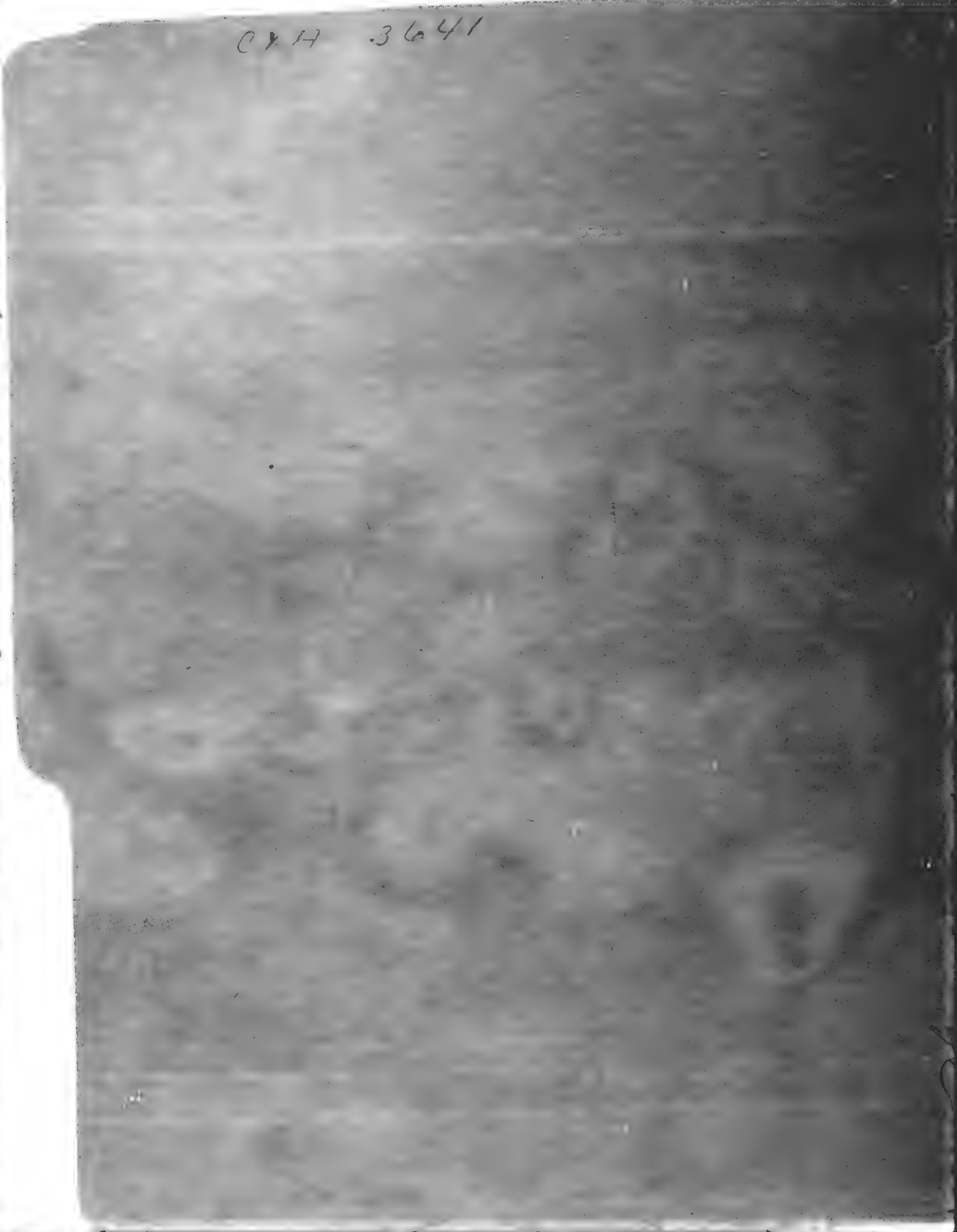
By

R. L. Porter
Deputy State Highway Engineer

VPJ:njc/TE:ja lms

bc:		
bc:	Floyd Query	
	Tom Edwards	C. H. Maison
	Victor D. Wolfe	J. J. Gix
	F. B. Crandall	H. S. Cox
	E. S. Hunter	J. F. Putnam

21-1607 NE 6th Street (Newport) on the 1969
Oregon Coast Hwy.
#7201 (Traffic signal)


CIH 3641

RECEIVED
MAR 3 - 1970
FOR FILING

27-1607
7201

Claim File #468

Files C

FILED
FEB 26 1970
CLAY MYERS
SECRETARY OF STATE

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

February 25, 1970

Safety Signal Systems, Inc.
4817 W. Marginal Way, S.W.
Seattle, Washington 98106

Attention: A. T. Matthews
General Manager

Gentlemen:

This is to acknowledge receipt of your claim letter of February 17 advising us that Steeck Electric Company owes you for traffic signal equipment and poles in the amount of $10,500.

You state this is in connection with the Steeck Electric Company Contract No. 7201 for traffic signal installation on N. E. 6th Street in Newport on the Oregon Coast Highway in Lincoln County. The United Pacific Insurance Company, P. O. Box 1216, Tacoma, Washington 98401, furnished the performance bond on this contract, which is given to assure completion of the contract and payment of all bills incurred in it. We will advise the surety of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please let us know when your claim has been paid.

Very truly yours,

NOTED

2-27-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

RECEIVED
FEB 27 1970
OREGON
STATE HIGHWAY COMMISSION

cc United Pacific Ins. Co.
Steeck Electric Co.
bc Commission
Secretary of State

- Please acknowledge receipt of this claim on the enclosed copy of this letter.

NOTED
C. W. HEAD

WEst 2-8820

SAFETY SIGNAL SYSTEMS, INC.

TRAFFIC CONTROL and LIGHTING
4817 W. Marginal Way S. W.
Seattle, Washington 98106

Feb. 17, 1970

Oregon State Highway Dept.
Accounting Division
Room 438, Highway Bldg.
Salem, Oregon 97310

REF: NE 6th St. (Newport) Sec.
Oregon Coast Highway US 101
Lincoln County, January, 1969

Dear Sir:

We [Safety Signal Systems, Inc.] wish to file claim against Steeck Electric Co., 1046 Court St., Medford, Oregon, Contractor for Subject Job.

Steeck Electric Co. owes us $10,500.00 for Traffic Signal Equipment and Poles used on subject job. This account has been outstanding since Sept., 1969.

Any help you can give us will be greatly appreciated.

Yours very truly,

A. T. Matthews
A.T. Matthews
Gen. Mgr.

ATM:js

NOTED
FLOYD QUERY

Rec 2-19-70

RECEIVED
NOV 7 - 1969
FOR FILING

21-1607
7201

November 7, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed August 23, 1969, on Contract No. 7201. The contract was with Steeck Electric Company and was for a traffic signal installation on the N. E. 6th Street (Newport) Section of the Oregon Coast Highway in Lincoln County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective November 7, 1969, and that you concur in this procedure at the Commission meeting on November 18.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
F. B. Klaboe
V. D. Wolfe
V. E. Skoog
Ivan Merchant
F. D. Morgan
L. H. Young
R. D. Asburry

srb sr

RECEIVED
NOV 10 1969

FOR FILE

21-1607
7201

November 7, 1969

United Pacific Insurance Company
P. O. Box 1216
Tacoma, Washington 98401

Gentlemen:

Contract No. 7201 awarded to Steeck Electric Company for traffic signal installation on N. E. 6th Street in the city of Newport on the Oregon Coast Highway in Lincoln County was completed on August 23, 1969, and accepted by the Highway Commission on November 7, 1969.

Final payment in the amount of $1,180.93 will be released to the contractor after November 14, 1969. The total contract amount is $18,403.33 including $268.33 for work performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By
C. W. Hand, Assistant Secretary

fkm

cc Steeck Electric Co.
1046 Court Street
Medford, Oregon 97501

Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Kerr
R. D. Asbury

21-1607
7201 C

FORM E-1 (REV. 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: N. E. 6th St. (Newport)

WEEK ENDING: 12 Jul 69

SECTION PREFIX: 21-1607

HIGHWAY: Oregon Coast

COUNTY: Lincoln

NAME OF JOB: Newport Traffic Signals

KIND OF WORK: Traffic Signal Installation

CONTRACTOR: Steeck Electric Co.

CONTRACT NUMBER: 7201

FEDERAL AID PROJECT NUMBER: State

DATE OF CONTRACT: 30 Jan 69

DATE WORK STARTED: 12 May 69

ESTIMATED COMPLETION DATE: 1 Aug 69

AVERAGE FORCE ON PROJECT FOR THE WEEK: 0

MEN:

SUPERVISION:

SPECIFIED WORK DAYS:

SPECIFIED CALENDAR DAYS: 180

SPECIFIED COMPLETION DATE:

WORK DAYS USED:

CALENDAR DAYS USED: 152

PERCENT OF TIME ELAPSED: 84

PROJECT AUTHORIZATION: $ 21,503.10

EXCLUSIVE OF ENGINEERING: $ 19,625.10

ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 19,625.10

ESTIMATED PERCENT: OVERRUN / UNDERRUN 0 %

ENGINEERING AUTHORIZATION: $ 1,878.

ENGINEERING COST TO DATE: $ 1,040.

PERCENT OF AUTHORIZATION: 55 %

PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 20

PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 20

DATE PROJECT WAS COMPLETED:

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD.	underground	
						95	

	~~[illegible]~~	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)	lump sum				
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE					
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:

none

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY	Sctd. Clouds	1		
MONDAY	Sctd. Clouds	1		
TUESDAY	Sctd. Clouds	1		
WEDNESDAY	Overcast	1		
THURSDAY	Overcast	1		
FRIDAY	Overcast	1		
SATURDAY		1		

RECEIVED
CONSTRUCTION DIVISION

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

6 July 69 SUNDAY	
MONDAY 7	
TUESDAY 8	
WEDNESDAY 9	
THURSDAY 10	
FRIDAY 11	
SATURDAY 12	

REMARKS

No activity this week.

SIGNED H. H. Patterson LOCATION Newport

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

SP-F216

C

RECEIVED
APR 22 1969
FOR FILING

21-1607

7201

Bid Jan 9

January 30, 1969

Stoeck Electric Co.
1046 Court Street
Medford, Oregon 97501

Gentlemen:

The State Highway Commission on January 14, 1969, accepted your proposal for installation of a traffic signal on N.E. 6th Street in the City of Newport on the Oregon Coast Highway in Lincoln County for the sum of $18,480.00 and referred it to the State Highway Engineer with authority to award the contract as soon as certain conditions have been satisfied.

Those conditions were fulfilled and the State Highway Engineer today awarded you the project, which has been assigned Contract No. 7201.

Enclosed are three copies of this contract. Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The calendar day count on this contract will begin February 11, 1969.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

or
Enclosures

bc: Pacific Builder & Engr., Inc., Seattle, Wash.
Daily Journal of Commerce, Seattle, Wn., & Portland, Ore.
H. H. Patterson
R. D. Asburry
Frank Morgan
D. J. Barbee
I. D. Merchant
C. D. Matthis (SIAC)

RECEIVED
DEC 5 - 1968

FOR FILING

21-1607
7201

4 h

MISC. CONTRACTS and AGREEMENTS No. 3641
11-12-68

November 14, 1968

Mr. Donald A. Davis
City Manager of Newport
City Hall
Newport, Oregon 97365

Dear Mr. Davis:

Attached for your records is a fully executed copy of an agreement covering installation of traffic signals at the intersection of US101 and 6th Street in your city.

We are retaining a fully executed copy of this agreement for the Commission's files.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By
C. W. Head, Assistant Secretary

fkn
Attachment

cc Mr. F. B. Crandall
(conformed agreement)

RECEIVED
OCT 22 1968
FOR FILING

21-1607

7201

October 18, 1968

6521

Oregon State Highway Commission

Gentlemen:

An agreement has been executed with the City of Newport for the installation of traffic signals at the intersection of US101 and 6th Street in that city.

This agreement provides that the State shall do the work with the City agreeing to pay one-half the cost, maintain the installation, pay for electrical energy and remove parking on both sides of US101 between NE 8th Street and north of 3rd Street.

The total estimated cost of this project is $22,000, State's share ($11,000) to be taken from Minor Betterment Funds.

I recommend your approval and request authority for the Secretary to sign the agreement for and on your behalf.

This matter will be on the agenda for your consideration at the meeting of November 12.

Very truly yours,

Forrest Cooper
State Highway Engineer

VPJ:njc lms
bc: Floyd Query
R. L. Porter
Tom Edwards
Victor D. Wolfe
F. B. Crandall
E. S. Hunter
J. J. Gix
C. H. Maison
H. S. Cox
R. D. Asburry

4-3732 Fort Stevens State Park, Battery 1969
Russell Parking Area, W. of Astoria
#7202 (Parking area embankment)

RECEIVED
MAY 28 1969
FOR FILING

4-3732
7202

May 26, 1969

United Pacific Insurance Company
Fidelity and Surety Department
P. O. Box 1216
Tacoma, Washington 98401

Gentlemen:

Contract No. 7202 awarded to O and K Construction Company for embankment construction in the Fort Stevens State Park Battery Russell Parking Area in Clatsop County was completed on April 28, 1969, and accepted by the Highway Commission on May 23, 1969.

Final payment in the amount of $1,247 will be released to the contractor after June 3, 1969. The total contract amount is $18,718.10 and no work was performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By
C. W. Reed, Assistant Secretary

fcm

cc O and K Construction Company
720 N. E. 242nd
Gresham, Oregon 97030
R. D. Asburry
Frank Morgan
V. E. Skoog
Attn: John Herr

RECEIVED
MAY 26 1969
FOR FILI

4-3732
7202

May 23, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed April 28, 1969, on Contract No. 7202. The contract was with O and K Construction Company and was for embankment construction in the Battery Russell Parking Area at Fort Stevens State Park in Clatsop County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective May 23, 1969, and that you concur in this procedure at the Commission meeting on May 28.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
F. B. Klaboe
Victor D. Wolfe
V. E. Skoog
Ivan Merchant
F. D. Morgan
L. H. Young
R. D. Asburry

srb sr

4-3732
7202

C

FORM E-1 (REV. 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: Fort Stevens State Park

WEEK ENDING: May 10, 1969

SECTION PREFIX: 4-3732

HIGHWAY: Battery Russell Parking Area

COUNTY: Clatsop

NAME OF JOB: Battery Russell Parking Area

KIND OF WORK: Embankment Construction

CONTRACTOR: O & K Construction Company

CONTRACT NUMBER: 7202

FEDERAL AID PROJECT NUMBER: State

DATE OF CONTRACT: March 26, 1969

DATE WORK STARTED: April 8, 1969

ESTIMATED COMPLETION DATE: April 28, 1969

AVERAGE FORCE ON PROJECT FOR THE WEEK: MEN: 0 SUPERVISION: 0

SPECIFIED WORK DAYS

SPECIFIED CALENDAR ~~DAYS~~ work 30

WORK DAYS USED

CALENDAR DAYS USED 14

SPECIFIED COMPLETION DATE

PERCENT OF TIME ELAPSED 47

PROJECT AUTHORIZATION: $ 28,556.30

EXCLUSIVE OF ENGINEERING: $ 26,062.30

ENGINEERING AUTHORIZATION $ 2,494.00

PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST 75/100

ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 18,718.10

ENGINEERING COST TO DATE $ 1,700.00

PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION 71

ESTIMATED PERCENT: OVERRUN / UNDERRUN 25 %

PERCENT OF AUTHORIZATION 68 %

DATE PROJECT WAS COMPLETED: April 28, 1969

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD.		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)	930 hrs.				
TOTAL QUANTITIES CORRECTED TO DATE	716 hrs				
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE	716 hrs				
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:

Job completed April 28, 1969

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY				No activity - Job Completed
MONDAY				
TUESDAY				
WEDNESDAY				RECEIVED
THURSDAY				
FRIDAY				CONSTRUCTION DIVISION
SATURDAY				BEN GIFFORD

NOTED
R. D. CHURCH

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY	
MONDAY	NO ACTIVITY * JOB COMPLETED
TUESDAY	
WEDNESDAY	
THURSDAY	
FRIDAY	
SATURDAY	

REMARKS

Semi-Final Estimate sent to Salem May 1, 1969, Third Notification sent to contractor May 6, 1969. This to be the last weekly report

SIGNED Loren [illegible] LOCATION Astoria

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

[illegible]

RECEIVED
APR 3 - 1969
FOR FILING
4-3732
7202

C

April 3, 1969

O and K Construction Company
720 N.E. 242nd
Gresham, Oregon 97030

Gentlemen:

Enclosed are three copies of Contract No. 7202 for $24,940 awarded to you by the State Highway Commission on March 26, 1969. This contract is for embankment on the Battery Russell Parking Area in Fort Stevens State Park in Clatsop County.

Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The calendar workday count on this contract will begin April 15, 1969.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Enclosures

bc: Frank Morgan
D. J. Barbee
I. D. Merchant
C. D. Matthis (SIAC)
Loren Weber
R. D. Asburry
David Talbot

6-4232 McCullough Br. over Coos Bay at 1969
N. city limits of N. Bend, Oregon
#7203 Coast Hwy. (Maintenance painting)

[redacted]

Contract #7203 - 6-4232
Contractor: Calvert Services, Inc.
Section: McCullough Bridge over Coos Bay at North City limits of N. Bend, on Oregon Coast Hwy., Coos Co. (Maint. painting)
Award Date: March 26, 1969

THE ABOVE CONTRACT FILE HAS BEEN SUPERCEDED BY:

Contract #7355 - 6-4232
Contractor: H-N Painting Contractor
Section: Coos Bay (McCullough) Bridge, on the Oregon Coast Highway at North Bend. (Cleaning and painting)
Award Date: May 1, 1970

LEE JOHNSON
ATTORNEY GENERAL

DIARMUID F. O'SCANNLAIN
DEPUTY ATTORNEY GENERAL

DEPARTMENT OF JUSTICE
507 State Highway Building
SALEM, OREGON 97310
TELEPHONE: (503) 364-2171

TRIAL DIVISION

THOMAS D. O'DELL
CHIEF TRIAL COUNSEL

J. BRADFORD SHILEY
ASSISTANT CHIEF TRIAL COUNSEL

WALLACE CARPENTER
LEONARD I. LINDAS
ASSISTANT ATTORNEYS GENERAL AND COUNSEL

CLIFFORD A. ALLISON
JAMES A. BLEVINS
JAMES P. CRONAN
QUINTIN B. ESTELL
LAWRENCE J. HALL
LESLIE B. HAMPTON
ROBERT A. HOLLAND
DONALD J. HOWE
E. DAVID LADD
JAMES F. LARSON
KEITH R. MALONEY
JOHN R. MCCULLOCH
FRANK C. MCKINNEY
EARL M. PRESTON
GEORGE E. ROHDE
JACK L. SOLLIS
CARLOTTA H. SORENSEN
ASSISTANT ATTORNEYS GENERAL

MAY 28 1970

6-4-
7203

NOTED
R.L.R.

May 20, 1970

Calvert Services, Inc.
321 12th Street North
Edmonds, Washington 98020

Reliance Insurance Companies
620 Oregon Bank Building
Portland, Oregon 97204

Re: Contract #7203 - Calvert Services, Inc.
Maintenance Painting-McCullough Bridge, Coos Bay

Gentlemen:

On March 20, 1969 Calvert Services, Inc. was the successful bidder on two (2) painting contracts, one for the painting of the Siletz River Bridge and the other for the painting of the McCullough Bridge spanning Coos Bay.

Thereafter, on March 26, 1969, the Oregon State Highway Commission awarded both contracts to Calvert Services, Inc. and, on April 2, 1969, forwarded the formal contract documents to it, which documents were formally executed and returned on April 9, 1969.

Accompanying Contract #7203, the subject of this letter, was the required statutory performance bond in the bid amount of $68,100.00, subscribed to by both Calvert Services, Inc. and its surety, Reliance Insurance Companies.

Calvert Services, Inc. elected to paint the Siletz River span first, and did so. Thereafter, on July 2, 1969, some three months after the award and execution of the above contract, Mark Calvert, President of Calvert Services, Inc., gave notice of its rescission of Contract #7203 and its refusal to perform the same, unless its bid of $68,100.00 was increased to $105,657.40.

On July 18, 1969, by letter to counsel for Calvert Services, with a carbon copy to Reliance Insurance Companies, demand was upon Calvert Services, Inc. to perform its contract, which demand was rejected and concurred in by Reliance Insurance Companies.

Coastal weather conditions precluded the re-advertising and the painting of the McCullough Bridge during the remaining 1969 season. A new contract was recently awarded for the painting of the McCullough Bridge. Due to Calvert Services, Inc.'s refusal to perform its contract with the State of Oregon, by and through its State Highway Commission, the State has been damaged in the sum of $66,260.00.

Demand is herewith made upon Calvert Services, Inc, and its surety, Reliance Insurance Companies, for the payment to the State of Oregon, by and through its State Highway Commission, of the sum of $66,260.00.

We feel the error made by Calvert Services, Inc., if in fact an error was made, was the result of culpable negligence on its part. That prompt notice of such error was not given to the State and as a result the State was seriously prejudiced by the refusal of Calvert Services, Inc. to perform its contract.

Please let me hear from you respecting this as expeditiously as possible.

Very truly yours,

LEE JOHNSON
Attorney General

L. I. Lindas
Assistant Attorney General
and Counsel to Highway Division

LIL:hg

cc - Mr. Donald McL Davidson, Attorney at Law
Ferguson & Burdell
929 Logan Building
Seattle, Washington 98101

Mr. Forrest Cooper
Mr. R. L. Porter
Mr. Tom Edwards
Mr. Floyd Query

RECEIVED
MAY 21 1970
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
SEP 12 1969

FOR FILING

6-4232

7203

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
September 10, 1969

SUBJECT: McCullough Bridge Painting
Contract No. 7203

To:

Mr. Tom Edwards
Assistant State Highway Engineer
BUILDING

Our estimated cost without profit to clean and paint the 1872 ton McCullough Bridge over Coos Bay is $120,700. Calvert Services bid $68,100 at the March 20, 1969 letting.

The contractor's costs on two recent coast bridge maintenance projects was our basis for this estimate. Tri-State's cost for maintenance painting of the 373 ton Ben Chandler Bridge over the Coos River is $31,362. The cost breakdown for 50% completion of this project is:

Labor	$10,992
Materials, Paint	876
Equipment	3,063
Overhead	750
	$15,681
Plus 50% to complete	15,681
Total	$31,362

B.G. Paint Company's cost for maintenance painting of the 570 ton Umpqua River Drawbridge is $29,435. The cost breakdown at a 70% completion stage is:

Labor	$12,265
Materials	2,405
Equipment	3,655
Overhead	1,200
	$19,525
To complete Labor	9,500
Paint	410
Total	$29,435

$$\frac{(\$31,362 + 29,435)}{(373 + 570)} \times 1872 = \$120,700 = \underline{\text{TOTAL ESTIMATE OF COST ONLY}}\ \text{for McCullough Bridge}$$

Copy to Rohdo 9-12-69

NOTED
TOM EDWARDS

We left out a study of Maintenance painting of the Siletz River Drawspan for several reasons. This contractor, Calvert Services, was also the low bidder on the McCullough Bridge over Coos Bay. Out of State travel is required to review their records. The project is one-tenth the size of the McCullough Bridge and would reflect high mobilization expenses on a ton basis of unit cost.

No study was made of the Maintenance painting of the Mill Creek Bridge in Wasco County. Contingent weather conditions and paint requirements would not be consistent with a coast bridge.

If you request, we would attempt to get painting costs on the Siletz River Drawspan and final contractor costs on the other two coast bridges.

F. D. Morgan
Construction Engineer

By Edgar L. Johnsen

Edgar L. Johnsen
Chief Cost Engineer

ELJ:fr

RECEIVED
SEP 10 1969
OFFICE OF
STATE HIGHWAY ENGINEER

AUG 19 1969
FOR FILING

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

August 15, 1969

Oregon State Highway Commission

Re: Requested rescission of
Contract #7203
Painting Coos Bay
(McCullogh) Bridge
Calvert Services, Inc.

NOTED
R. L. PORTER

Gentlemen:

On March 20, 1969, Calvert Services, Inc., was the successful bidder on two painting contracts, one for the painting of the Siletz River Bridge and the other for the painting of the Coos Bay Bridge, both on Highway 101.

Thereafter the Commission, on March 26, 1969, awarded both jobs to Calvert Services, Inc., and on April 2, 1969, forwarded to it the formal contract documents, both of which were then executed and returned to the Department on April 9, 1969.

Calvert Services elected to first paint the Siletz River span. The bid to do this job was $17,200. In late June of 1969, upon discovering the cost of painting the Siletz Bridge was going to exceed its bid by approximately $23,000, Calvert took another look at its bid to paint the Coos Bay Bridge, which was in the amount of $68,100.

The engineer's estimate to paint the Coos Bay Bridge was $110,000. There were 6 bids submitted, ranging from a low of $68,100 to a high of $406,000. The bid of the second low bidder was $86,240.

On July 2, 1969, some three months after the award and execution of the contract to paint the Coos Bay Bridge, the contractor, by letter, informed the Highway Department an error was committed in formulating the bid by the omission therefrom of a $45,000 item for steam cleaning.

Later, on July 7, 1969, the contractor's attorney, Mr. Donald McL. Davidson of the Seattle law firm of Ferguson and Burdell, requested that his client either (1) be relieved of the performance of the contract to paint the Coos Bay Bridge because of the inadvertent error made in computing his bid, or (2) at the option of the Commission, Calvert would enter into a supplemental agreement to perform the work which would include the bare cost of the omitted work, without overhead or profit--that is, raise the bid price $37,547.20, to a total contract amount of $105,647.20. Calvert also agreed to indemnify and hold the State harmless from lawsuits brought by any other bidders.

On July 18 Mr. Davidson was informed by letter, after discussing the matter by telephone with Mr. Jackson, that relief in either alternative could not be granted. Thereafter by letter of July 22 Calvert gave notification of its rescission of Contract No. 7203 for painting the McCollough Bridge in Coos County.

It is a general rule of law that one who errs in the preparation of a bid for public works is entitled to the equitable relief of rescission if it can be established by clear and convincing evidence that:

1. The mistake is material.
2. To enforce the contract would be unconscionable.
3. The mistake did not result from the violation of a legal duty or from culpable negligence.
4. The party to whom the bid was submitted will not be seriously prejudiced, except for the loss of his bargain.
5. Prompt notice of the mistake is given.

It is felt that Calvert Services, Inc. does not come within the requirements listed above. Here the contract was awarded and voluntarily executed by the parties thereto. Some three months elapsed before the error was discovered, if in fact it was an inadvertent error, and notice given to the State.

Copies of the contractor's worksheets, used in formulating his bid, are sketchy at the most. Their skimpiness in detailing the items to be considered certainly lead one to believe the contractor was guilty of culpable negligence in formulating his bid. They indicate extreme carelessness in that the estimator apparently did not even consider the item of steam cleaning, which was called for in the special provisions.

In speaking of culpable negligence, the courts have held that this generally means carelessness, or lack of good faith, in estimating the amounts of work to be done and the unit prices for the work. When this carelessness amounts to gross negligence, relief is generally refused.

The courts consistently make a distinction between what amounts to an error in judgment and a simple clerical or mechanical error, such as neglecting to carry an item from the worksheets to the formal bid proposal forms.

When one is denied relief from an error of judgment, the agreement is enforced because it is actually the one the contractor intended to make, whereas, if he is denied relief from a clerical or mechanical error, he is forced to perform an agreement he had no intention of making.

Since the items of labor and equipment delineated on his bid worksheets could well be said to cover all items of labor and equipment, including steamcleaning, it would appear, or we can assume at least, the contractor made an error in judgment, for which relief is generally denied.

Additionally, because of the delay in notifying the State of the error, the State not only loses its bargain, but loses an entire painting season, since it is now too late to re-advertise for bids, award a new contract and have the bridge painted before the winter season sets in.

It should be pointed out, however, that the Oregon Supreme Court has held relief should be granted in those instances where the agency knew or should have known the bidder made a mistake. The language used by the court is as follows:

> "But if the offeree knew of the mistake, and if it was basic, or if the circumstances were such that he, as a reasonable man, should have inferred that a basic mistake was made, a meeting of the minds does not occur.********* (In such case) the offeree will not be permitted to snap up an offer that is too good to be true*********."

As pointed out previously, the engineer's estimate to perform the work was $110,000. The bids received were:

$68,100.00
86,240.00
162,858.00
171,300.00
372,978.00
406,812.00

If this information in itself should have alerted the Department an error had been made, I then read into the language of the Oregon Supreme Court that it was our duty to have informed the bidder that we felt he may have made an error in formulating his bid. We did not do this.

However, in all cases reviewed where relief was granted, notice of the error was brought to the agency's attention before a contract was awarded and the agency could award to the next low bidder. In this case, this is not possible since so much time has elapsed, making readvertising necessary, should the contractor refuse to perform his contract. Because of this delay, as well as being negligent in the formulation of the bid, I feel the State has been prejudiced and relief should be denied. I further recommend that performance of the contract be tendered to Reliance Insurance Company, surety on such contract.

Very truly yours,

G. E. ROHDE
Chief Counsel

LIL:gw;hg

cc - Mr. Forrest Cooper
Mr. R. L. Porter
Mr. Floyd Query

RECEIVED
AUG 18 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
JUL 30 1969
FOR FILING

6-4[illegible]

7203

RELIANCE
INSURANCE
COMPANIES

620 OREGON BANK BUILDING • PORTLAND, OREGON 97204 • TELEPHONE: (503) 228-6333

RELIANCE INSURANCE COMPANY
RELIANCE STANDARD LIFE INSURANCE COMPANY
PLANET INSURANCE COMPANY

REFERRED TO
Rohde
BY DEPUTY STATE HIGHWAY ENGINEER

Please answer

July 29, 1969

Mr. R. L. Porter
Deputy State Highway Engineer
Oregon State Highway Department
Highway Building
Salem, Oregon 97310

Re: CALVERT SERVICES, INC.

Dear Sir:

This is to acknowledge receipt of a copy of your letter of July 18, 1969 addressed to Mr. Donald McL. Davidson concerning Contract No. 7203 with Calvert Services, Inc.

We understand that Calvert Services, Inc. gave notice July 7, 1969 of its intention to rescind the contract on the basis of the mistake in their bid which was or should have been known to the State of Oregon, unless the State elected to rectify the error sufficiently to make it possible to proceed.

We understand that as a result of your letter of July 18 electing not to proceed at an additional cost of $37,547.40, Calvert Services, Inc. has or will give formal notice of rescission. You of course understand that it is your obligation to mitigate your damages.

Upon our review of the facts and the law, including Restatement of Contracts, S503 and Illustration 1, and Moffett, Hodgkins & Clarke Co. V. Rochester, 178 U. S. 383, 44 L.ed 1108; Monroe Manufacturing Co. V. United States, 143 F. Supp. 449 (D. C. Mich.); U. S. v. Metro Novelty Mfg. Co., Inc., 125 F. Supp. 713 (D. C. N. Y.), we must concur in our principal's view that it is entitled to rescind the contract and bond securing it.

Very truly yours,

RELIANCE INSURANCE COMPANIES

Laird

J. S. Laird
Attorney-in-Fact

NOTED
TOM EDWARDS

RECEIVED
JUL 30 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
JUL 29 1969

Form
6-4232
7212

TABULATION SHEET

SHEET 1 OF 1 SHEETS

OREGON STATE HIGHWAY DEPARTMENT

McCULLOUGH BRIDGE AT COOS BAY
Bridge No. 1823
PAINT CONTRACTS ABOVE DECK

K. L. Martin

July 28, 1969

Contract #	Date Let	Date Compl.	Contractor	Low Bid	2nd Bid	Engr. Est.		
5635	4-21-60	9-29-60	A.H.Barbour & Son Inc.	$69,264.00	$83,233.00	$69,264.00	Remove & Paint cover plates. 60% of paint Intact. Brush 3 spot & 2 stripe coats. Spray 1 base & 2 finish coats.	
4134	4-2-54	9-15-64	Runnels	$57,850.00	$60,500.00	$65,000.00	Brush 3 spot & 2 stripe coats. Spray 1 base & 1 finish coat.	

On the above contracts clean by sand blasting and paint all steel above roadway to include handrail and interior of box sections.

Contract #	Date Let	Date Compl.	Contractor	Low Bid	2nd Bid	Engr. Est.		
2730	5-15-45	8-24-46	Watson & Morris	$27,500.00	$42,750.00	$45,000.00		

On the above contract cleaning was required but sand blasting was not specified. The State furnished all paint ($3,043.00). The coats required were not in the files, but below deck painting required 3 coats in 1944 and 6 coats in 1948.

NOTED
TOM EDWARDS

RECEIVED
JUL 28 1969
FOR FILE

6-41922
7203

CALVERT SERVICES, INC.

July 22, 1969

Mr. R. L. Porter
Deputy State Highway Engineer
Oregon State Highway Department
Highway Building
Salem, Oregon 97310

Dear Mr. Porter:

Calvert Services, Inc. hereby rescinds Contract No. 7203 for painting the McCullough Bridge in Coos County, Oregon, with the State of Oregon.

We regret the necessity of taking this action but see no other alternative available to us in the light of your letter of July 18, 1969 rejecting our offer to undertake the project for a price of $105,657.40.

Very truly yours,

CALVERT SERVICES, INC.

By: J. Mark Calvert - President

cc: ✓ Secretary, State Highway
Commission

Reliance Insurance Companies
620 Oregon Bank Building
Portland, Oregon 97204

NOTED
FLOYD QUERY

RECEIVED
JUL 25 1969
OREGON
STATE HIGHWAY COMMISSION

Noted on Card
7-28-69
CR

RECEIVED
AUG 5 - 1969

FOR FILING
6-4232
7112

Salem, Oregon
July 28, 1969

McCullough Bridge
Painting Contract

-7654 Mr. R. L. Porter

I have examined the presentation of Ferguson and Burdell concerning the painting of the McCullough Bridge in which they state that the contractor inadvertently omitted the item of steam cleaning from his bid.

While I sympathize with him, I would not recommend cancellation of the contract. I would recommend the matter be placed in the hands of the bonding company to complete the painting for which we contracted.

Tom Edwards
Assistant State Highway Engineer

TE:ja

cc Forrest Cooper
Victor D. Wolfe
Ivan Merchant
G. E. Rohde

LAW OFFICES OF
Ferguson & Burdell
929 LOGAN BUILDING
Seattle, Washington 98101
MAIN 2-1711

WM. H. FERGUSON
CHARLES S. BURDELL
WM. WESSELHOEFT
DONALD McL. DAVIDSON
EDWARD HILPERT, JR.
THOMAS J. GREENAN
J. RICHARD MANNING
H. W. DEAN, JR.
WILLIAM B. MOORE
G. E. CRAIG DOUPÉ
C. DAVID SHEPPARD
WILLIAM E. KUHN
W. J. THOMAS FERGUSON

Rohde

July 21, 1969

Mr. R. L. Porter, Deputy State Highway Engineer
Oregon State Highway Department
Highway Building
Salem, Oregon 97310

Dear Mr. Porter:

Orig to Rohde 7-22-69

This is to acknowledge your letter of July 18, 1969.

We cannot speak for the bonding company.

Our July 7th letter was intended to advise the Highway Commission of the practical realities affecting the contractor's ability to perform, as well as what we believe to be the legal situation arising out of the submission and receipt of its bid, coupled with an effort to proceed upon a practicably feasible basis if this should be the desire of the Highway Commission.

I am enclosing copies of decisions of the Comptroller General, Nos. B-167031 and B-167195, dated June 16 and June 23, 1969, respectively. The first points out that,

> "It is a well-established principle of the law of contracts, and is equally applicable to private and public contracts"

to grant relief where a major mistake is made by a bidder and the owner is

> "on actual or constructive notice of the error prior to award."

The second decision points out that perfunctory request for verification of a bid is not sufficient to sustain the award of a contract where the owner should have known at the time of contract award that a mistake was made.

We feel that these decisions upon facts indistinguishable from the present case rest upon fundamental contract principles.

We also note that the Highway Commission referred our communication to your office and did not itself take formal action. We do request that this matter be formally placed before the Commission for action.

We shall attempt to be in communication with you prior to your deadline of Monday, July 28, 1969.

Very truly yours,

FERGUSON & BURDELL

By: Donald McL. Davidson

DMD:bm
Encls.

cc: Reliance Insurance Companies
620 Oregon Bank Building
Portland, Oregon 97204

RECEIVED
JUL 22 1969
OFFICE OF
STATE HIGHWAY ENGINEER

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-167195 June 23, 1969

Dear Mr. Secretary:

Reference is made to a letter dated June 9, 1969, from the Deputy Assistant Secretary for Administration, requesting a decision on a claim presented by Braun-Brumfield, Incorporated, Ann Arbor, Michigan, for payment of an amount in addition to the price paid for certain services and material furnished to the Bureau of Commercial Fisheries under a contract awarded to that company pursuant to advertised solicitation No. CF4-100, dated October 3, 1968, as amended. The claim is based upon a contention that, at the time of preparing an invoice for the services and material furnished under the contract, a mistake was discovered with respect to the price quoted by the contractor as its item No. 1 job price for "Complete service consisting of lithographic printing, binding, packaging, and mailing, for a group of Bureau-collected reprints."

The schedule of the advertisement for bids included two items, with item No. 2 calling for the quotation of a unit cost price to cover "rescreening halftones as required." The advertisement, as amended on October 7, 1968, indicated that the item No. 1 requirements would involve printing and binding services to produce 225 each of two volumes which would include a total of 2,285 pages of reprints.

Two bids were received, one from Braun-Brumfield, Incorporated, and the other from Malloy Lithographing, Incorporated, Ann Arbor, Michigan. The quoted item No. 1 job prices were in the respective amounts of $3,610 and $7,086, and both bidders quoted a unit cost amount of $2 under item No. 2. Verification of the item No. 1 price of $3,610, quoted by Braun-Brumfield, Incorporated, was obtained upon request made by telephone on October 23, 1968. The contracting officer prepared a memorandum on that date, stating that he was informed by Braun-Brumfield, Incorporated, that its quoted price "covered everything in our specifications." A contract was awarded to that company on October 24, 1968.

It is contended by the contractor in a letter dated April 28, 1969, that the quoted item No. 1 job price should have been doubled, and a worksheet was submitted which purports to show that its bidding estimate on the item No. 1 requirements was based upon the printing and binding of 1,145 pages of reprints, or a quantity which is slightly in excess of one-half of the required 2,285 pages to be included in two volumes of each of 225 sets of reprints. The contractor contends, in effect, that it overlooked the fact that two volumes of each set of reprints were to be produced. With respect to the verification of its bid upon the contracting officer's request of October 23, 1968, the contractor's letter states:

> "You did call us up after receiving the quote to confirm the price and over the phone without having the quote in front of me, I told you that with the exception of the charge of $2 each for halftones, the $3,610 was our price. That time I didn't suspect that a mistake had been made and there was nothing said that gave me any reason to get out the quote and look it over. We never had occasion to look at the quote again until the job shipped and was ready for billing and at the time, we quickly saw what had happened."

It is reported that your Department has no doubt as to the existence of the mistake and it is suggested, although the error was unilateral and award was made after confirmation of the contractor's bid, that it might be proper to allow an increase in the contract price by the sum of $3,476, representing the difference between the prices of $7,086 and $3,610 quoted by the two bidders for the item No. 1 services and material.

It is a general rule that relief may be granted to a contractor from the consequences of a serious mistake in his bid if the contracting officer knew of the mistake when he accepted the bid or the circumstances of the particular case are such as to require a conclusion that the contracting officer should have known at the time of contract award that a mistake was made. See Michael Chernick v. United States, 178 Ct. Cl. 498. However, it is also recognized that, if a contracting officer has any reason to suspect that a serious mistake has been made in a bid, an award following verification of the bid would ordinarily result in the consummation of a valid and binding contract as to which no relief could be granted to the contractor because of a mistake discovered after award of the contract.

Nevertheless, as held in United States v. Metro Novelty Manufacturing Company, 125 Supp. 713, and in various decisions of our Office, there must be an adequate request for verification in such cases. In that connection, where a contracting officer suspects that a serious mistake might have been made in a bid, it is not sufficient to make a general request for verification or confirmation of the bid but, as provided in section 1-2.406-3 of the Federal Procurement Regulations, "Such request shall inform the bidder why the request for verification is made--that a mistake is suspected and the basis for such suspicion; e.g., that the bid is significantly out of line with the next low or other bids or with the Government's estimate."

The facts of the present case may be essentially similar to those considered in 44 Comp. Gen. 383, which involved a mistake on the part of the contractor or its supplier in assuming that only one piece, instead of two pieces, of rubber of certain dimensions was required. Although the bid price informally submitted in that case was considerably out of line with the Government's cost estimate, and it was known that the contractor was submitting a written quotation before receiving a formal commitment from its supplier because of a stated urgency for the material, no action was taken by the contracting officer other than to request that the contractor's informal quotation be confirmed in writing. We held that this did not constitute an adequate request for bid verification.

Based upon the statements of Braun-Brumfield, Incorporated, in its letter of April 28, 1969, it does not appear that the contractor was informed during the telephone conversation of October 23, 1968, that a mistake in bid was suspected or of any specific reason for such suspicion. Although it appears from the contracting officer's brief memorandum of that date that the contractor might have been asked whether it proposed to comply strictly with the advertised specifications, there was provided no information in such memorandum whether the contractor was specifically placed on notice that a mistake in bid was surmised or whether the contractor knew or was informed by the contracting officer that Malloy Lithographing, Incorporated, had quoted an item No. 1 job price of $7,086. Also, no information was provided as to whether the contractor was advised of any cost estimate made by the Government regarding the performance of the item No. 1 work or whether any reference was made by the contracting officer during the telephone conversation of October 23, 1968, to the possibility that the contractor might have erroneously assumed that only one volume of each of 225 sets of reprints was to be produced. We believe that the contracting officer should have considered the possibility of such a mistake inasmuch as the contractor's item No. 1 job price was approximately 48 percent less than the quoted price of Malloy Lithographing, Incorporated.

It would appear, in the particular circumstances, that an additional statement should be obtained from the contracting officer relative to the substance of the October 23, 1968, telephone conversation which resulted in a confirmation of the contractor's item No. 1 bid price of $3,610. If, upon your review of the matter after receipt of such additional statement, you determine that the contractor was not placed upon sufficient notice of the nature and the extent of the mistake which was surmised by the contracting officer when he requested a confirmation of the bid price, you are advised that we would have no objection to the issuance of an appropriate contract amendment, increasing the contract price by the above-stated sum of $3,476. On the other hand, if the contracting officer's supplemental statement in the matter reasonably supports a conclusion that the Government fulfilled its responsibility for obtaining a bid verification of the type required under applicable regulations and prior decisions of our Office, a denial of the contractor's claim would appear to be required. See 47 Comp. Gen. 616; id. 732.

Sincerely yours,

R. F. Keller

For the Comptroller General
of the United States

The Honorable
The Secretary of Interior

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-167031

June 16, 1969

Dear Mr. Kunzig:

Reference is made to a letter dated May 21, 1969, with enclosures, from your General Counsel, requesting a decision as to whether the Gal-Box Manufacturing Co. may be relieved of all obligations arising under negotiated contract No. GS-07S-12417 awarded to that firm under solicitation No. F/21310-TE, issued by the Federal Supply Service, Buying Division, Region 7, Fort Worth, Texas.

It is reported that on March 5, 1968, offers covering a definite quantity procurement of 10 items of FSC 8115 plywood boxes were solicited by telephone from seven manufacturers; that five of the seven manufacturers submitted oral quotations; that the five manufacturers were again contacted by telephone on March 8, 1968, for the purpose of checking whether the offerors had submitted their lowest proposals; and that when contacted the second time, the Gal-Box Manufacturing Co. reduced its original offered unit prices on five items by amounts ranging from $0.75 to $1.50 per unit.

By telegram dated March 11, 1968, Gal-Box was advised to proceed with the order for items 1 through 8, and 10. The company was also informed that 25 percent of the total quantity of boxes had to be delivered by March 15, 1968, and that the remainder had to be delivered by April 1, 1968. By telegram dated March 12, 1968, Gal-Box advised that it could not possibly comply with the stated delivery requirements, but that it could deliver 25 percent of the boxes by April 1, 1968, and the remainder by May 30, 1968. The company's proposed delivery schedule was considered and accepted by the procuring activity. On April 22 and May 31, 1968, two amendments to the contract were issued and the effect of such amendments was to change the dimensions of item No. 4 and to cancel item No. 10 in its entirety by mutual agreement.

It is reported that on May 3, 1968, after completion of some partial shipments of the boxes, Mr. Robert R. Lindsey, vice president of Gal-Box telephoned alleging that the company had made an error in computing its bid prices for the boxes in that it had failed to include an amount to cover the overhead costs. Mr. Lindsey requested that the company be relieved of performing the contract because it would face bankruptcy if it had to furnish the boxes at its original bid prices.

In a confirming letter dated May 15, 1969, the president of the company requested that the contract unit prices of items 1 through 8 be increased in the following manner:

Items	Original Price	Revised Price
1	$15.50	$17.05
2	24.00	26.40
3	24.50	26.95
4	24.00	26.40
5	25.00	27.50
6	24.50	26.90
7	25.50	28.05
8	25.50	29.70

In support of its allegation of error, the company submitted its estimate sheets which substantiate that the company in computing its bid prices failed to include an amount to cover the item of overhead costs. The company also submitted a copy of a letter dated June 19, 1968, from Mr. Harold R. Fuller, Certified Public Accountant, in which Mr. Fuller stated that the records of Gal-Box indicate that the percentage of overhead to sales is 20.94 percent and that because of the failure of the company to include an amount in its bid price to cover the item of overhead costs it had understated its aggregate total bid price for the items involved by $19,168.22. By letter dated June 27, 1968, the contracting officer advised the company that its right to proceed with the contract was terminated and that the supplies on which it had defaulted would be procured by the Government from other sources and that it would be held responsible for any excess costs occasioned the Government as a result of such procurement. Subsequently, replacement contracts for the same type of boxes were entered into with the American Moving and Storage Company and the Thompson Container Co. at an excess cost of $16,857.25 to the Government.

Where a mistake has been alleged after award of the contract, our Office will grant relief if the mistake was mutual or the contracting officer was on actual or constructive notice of the error prior to award. This is a well-established principle of the law of contracts, and is equally applicable to private and public contracts, whether made by negotiation or by formal advertising (B-141294, December 8, 1959; B-156542, June 1, 1965; 30 Comp. Gen. 509).

The abstract of quotations shows that for the boxes described under items 1 through 8, Gal-Box and the next lowest offeror quoted the following prices:

Items	Gal-Box	Next Lowest Offeror
1	$15.50	$16.29
2	24.00	27.38
3	24.50	33.75
4	24.00	28.67
5	25.00	32.67
6	24.50	34.26
7	25.50	33.52
8	25.50	32.57

In his Findings and Determination, in which he recommended that Gal-Box be relieved of all obligations arising under the contract, the contracting officer states that the disparity between the prices quoted by Gal-Box and the prices quoted by the other offerors was so apparent as to have charged him with notice of the probability of an error in the company's oral quotation. We also are of the opinion that the contracting officer should have been aware of the probability of error in the company's quotation and, consequently, the quotation should not have been accepted without verification thereof.

Since the offer of Gal-Box should have been verified before its acceptance, we are of the opinion that the acceptance of the offer of Gal-Box did not result in a valid and binding contract. Accordingly, no legal basis exists for holding Gal-Box liable for any excess costs resulting from the award of contracts to the replacement contractors.

In his letter your General Counsel states that in view of the fact that some of the boxes covered by the contract have been delivered and paid for, the procuring activity intends to enter into negotiations with Gal-Box for adjustment of the payment for the boxes delivered on a quantum meruit basis, not to exceed the prices quoted by the second low offeror. We have no objection to this proposed action. A reference to this decision should be made on the voucher covering the additional payment to the Gal-Box Manufacturing Co.

Sincerely yours,

R. F. Keller

For the Comptroller General
of the United States

The Honorable Robert L. Kunzig
Administrator, General Services Administration

RECEIVED
JUL 22 1969

FOR FILING

6 4232
7203

c

July 18, 1969

Mr. Donald McL. Davidson
Attorney at Law
929 Logan Building
Seattle, Washington 98101

Dear Mr. Davidson:

Your July 7 letter to the Oregon State Highway Commission concerning Contract No. 7203 with Calvert Services, Inc., for painting the McCullough Bridge in Coos County, Oregon, has been referred to this office.

This request has been given consideration by the Highway Division staff and the Highway Commission. It is the consensus that, under the facts, it would not be proper for us to grant the relief of either of the alternatives requested. Accordingly, we must and do request that Calvert Services, Inc., immediately proceed with the performance of its contract.

Since the tenor of your letter gives the impression your client does not wish to proceed with the performance of the contract into which he entered, we would request an immediate notification from you if this be true.

We feel that a copy of this letter must be sent to the bonding company for Calvert Services, Inc., even though Mr. Calvert has requested we not do so at this time. I am sure that you will respect our legal position in so doing.

Should your client neglect to proceed with the performance of the above contract by Monday, July 28, 1969, we shall take this to mean there is no intention on his part to perform.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

R. L. Porter
Deputy State Highway Engineer

bc Floyd Query
Forrest Cooper
Tom Edwards
F. B. Klaboe
Victor D. Wolfe
George Rohde
L. H. Young
F. D. Morgan
E. S. Hunter
C. T. Keasey

cc Reliance Insurance Companies
620 Oregon Bank Building
Portland, Oregon 97204

(Legal Division) fn

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

July 8, 1969

Ferguson & Burdell
929 Logan Building
Seattle, Washington 98101

Gentlemen:

This is to acknowledge receipt of your letter of July 7, 1969, concerning Contract No. 7203 awarded to Calvert Services, Inc. for painting the Coos Bay-McCullough Bridge. Your letter points out that the contractor left out an item for steam cleaning the bridge and requests that an adjustment be made.

I am forwarding your letter and the work sheets which were attached, to the office of the State Highway Engineer.

Very truly yours,

ORIGINAL SIGNED
FLOYD QUERY

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

FQ:sj

cc R. L. Porter

7. 9. 69
Copies to
Edwards & Rohde

RECEIVED
JUL 8 1969
OFFICE OF
STATE HIGHWAY ENGINEER

FERGUSON & BURDELL
929 Logan Building
Seattle, Washington
98101

Telephone Number:
Main 2-1711

July 7, 1969

Secretary
State Highway Commission
Salem, Oregon

Re: Contract 7203; Calvert Services, Inc.
Maintenance Painting, Coos Bay
McCullough Bridge

Gentlemen:

We wish to bring to the attention of the Commission a problem affecting Calvert Services Inc., on the above project.

The Coos Bay Bridge was one of three bid by Calvert Services on March 20, 1969. Five bridges were figured for that bid opening, a copy of the original Direct Cost Summary being attached hereto.

Calvert Services was awarded the Siletz Bridge on March 26th. The Direct Cost calculation for the McCullough Bridge was $55,770 which with a 22 percent mark-up for overhead and profit resulted in a bid and an award price of $68,100.

The State's estimate for this work was $100,000, and other experienced painters bid in amounts ranging from Andrew Neshim's bid of $162,858 upwards.

The Direct Cost Estimate was made by Mr. Martin Sheeley, an experienced bridge painter and furnished to Mark Calvert, sole owner of Calvert Services, Inc. Mr. Calvert, during and after this bidding period, was working upon and supervising a number of jobs including the cleaning of a 13-story office building in Bellevue, Washington. Mr. Sheeley has been and now is supervising painting of the Siletz Bridge. Last week as the painting on the Siletz Bridge neared completion it became apparent that it would be a large loss. Mr. Calvert undertook therefore an investigation to determine the reason why his bid was so far below the estimate and other bids on the McCullough

NOTED
FLOYD QUERY
7-8-69

Bridge. Upon examination of the original cost estimate, it appeared that no costs were included for steam cleaning. This summation was verified by telephone with Mr. Sheeley at the job site. The contractor thereupon advised the department of this error by letter dated July 2, 1969, a copy of which is also attached.

During the weekend Mr. Sheeley confirmed the omission of steam cleaning and prepared an estimate for this omitted work upon the same basis and factors as were used in his original estimate. The bare cost estimate of the omitted work is $37,547.40 which would have resulted with the 22 percent mark-up of an additional $45,807. Copies of Mr. Sheeley's work sheets are also attached.

Calvert Services, Inc. therefore requests as follows: First, that the contract be cancelled by reason of the fact of the omission of a major item of work from the bid and the award. Or second, at the option of the commission to enter into a supplemental agreement. The contractor is prepared to execute a supplemental agreement which will include the bare cost of the omitted work, without overhead or profit - that is, raise the bid price $37,547.40, to a total contract amount of $105,647.40 - and the contractor will undertake to indemnify and save the State harmless from any loss or liability and defend the State in any lawsuits brought by any other bidder.

In this connection the only bidder who could conceivably be prejudiced would be H. & N. whose bid was in the amount of $86,240. This bid, however, was qualified by a limitation of the amount of work that such bidder would accept, and the contractor is likewise certain that this bid was also the result of a serious and substantial error. In any event the contractor is prepared to protect the State from any such claim.

The legal basis for cancelling the contract is clear although the circumstances are conceededly somewhat rare. In somewhat similar circumstances, the Comptroller General has ruled that a contractor even if he had performed under a contract executed with a serious mistake could recover upon the theory of quantum meruit. Comptroller's opinion was Opinion B-159533 (August 1, 1966). This decision was arrived at because the government was held to have constructive notice of the bid error where the government estimate was $12,000 and the bid was $6,000.

This closely parallels the rule established and endorsed by the Comptroller General holding that the awarding authority has a duty to verify a low bid where there is a substantial difference between the low bid and the government's estimate. See for instance, Comptroller General's Opinion B-154166 (August 5, 1964) where bids were $1,335 to $1,362, and the government's estimate was $3,000. The Comptroller General in Opinion B-157742 of October 11, 1965, held that a contractor should be permitted to correct an error even after an award where the contracting officer did not request verification of the bid prior to awarding and there was a substantial difference between the bid and the government's estimate.

Comptroller General's Opinion B-151633 of July 17, 1963, held that a low bidder was entitled to an adjustment of price even following the award where his bid was $12,500 and the government's estimate was $15,700, and there were two bids in excess of the government's estimate.

Comptroller General's Opinion B-151035 of April 2, 1963, held that a contractor was entitled to rescind the contract and in addition to be paid the reasonable value of performance prior to recision where his bid had omitted profit and labor costs.

Other Comptroller General's Opinions permitting either recision or adjustment of price following an award of contract include number B-134326 (1957); and B-150499 (January 16, 1963).

It would seem reasonably clear from the law applied by the Federal Government in Federal contract cases as well as legal theory generally applicable to bid mistakes that the Calvert Service bid of $68,100 on the McCullough Bridge was not legally susceptible to acceptance - at least not until the awarding authority had requested and obtained verification of it.

The contractor, of course, deeply regrets the occurrence of this error and is ready, willing, and able to do all within his power to correct it and to insure that the work can be done as soon as possible and at the least possible cost to the State of Oregon. It is for these reasons that the contractor has set forth all of the facts concerning the error and the work sheets establishing the amount of a true bid and is offering to proceed without overhead or profit on the omitted work.

In the event of cancellation of the contract, the contractor will of course reimburse the State for any necessary out-of-pocket costs such as readvertising. The season is such that it would be a benefit to all concerned to reach a decision as soon as possible. Please be assured that the contractor would be pleased to proceed forthwith if a price adjustment could be made as set out herein so that it would be feasible and practical for him to undertake the work with an assurance that he would be able to complete it.

In the light of the shortness of time we also think it appropriate to request a time extension pending a decision concerning the error.

The contractor certainly regrets the error that occurred but is confident that the State does not seek to take advantage of any honest error, ruinous to the contractor.

We would be pleased to meet with the Commission or any delegate of the Commission to furnish any further information which may be required.

Very truly yours,

FERGUSON & BURDELL

BY

Calvert Services Inc.
321-12th North
Edmonds, Washington
98020

July 2, 1969

Oregon State Highway Department
State Highway Building
Salem, Oregon
97310

Re: McCullough Bridge
Contract # 7203

Gentlemen:

Upon reviewing our bidding we find that we omitted the cost of steam cleaning from our bid. We accordingly request a conference at the earliest possible moment to correct our bid, or to cancel the contract. Our original bid was in abvious error which must have been apparent to the State in light of its own estimate.

Very truly yours,
Calvert Services Inc.
Mark Calvert
Mark Calvert
President

A
SILETZ DRAW SPAN 188 TONS 10% BLAST.
5 1/2 COATS

4

LABOR	11,280
EQUIP	2,000
PAINT	1880.
MISC.	1516
	16,676
	1,667
	18,343

1
MCCULLOUGH

1872 TONS SPOT BLAST
3 SPOT COATS + ONE STRIPE 2 COATS PAINT
ABOVE DECK

1

LABOR 8 WKS 8 MEN	$ 33,600.00
EQUIP	$7,500
PAINT	5,000
MISC.	4,600
COST. – $	50,700
	5,070
	55,770

BEN CHANKER . DRAW SPAN 373 TONS
5
3 SPOT 1 STRIPE + 2 COATS
5

LABOR	8,000
EQUIP	2,000
PAINT	1865
MISC.	1186
	13051
	1305
	14,356

3
UMQUA DRAW SPAN 570 TONS
3 SPOT 1 STRIPE + 2 FINNISH
3

LABOR	16,800
EQUIP	2,500
PAINT	2,850
MISC.	2,220
	24,370
	2,437
	26,807

2
MILL CREEK 462 TON
3 SPOT + 1 FINNISH SPRAY

LABOR	3000
EQUIP	1300
PAINT	1386
MISC	568
	6254
	625
	6879

2

18,343
55,770
14,356
26,807
6,879
$122,155.00

EQUIP.
PER MO.

2 Steamers 400 EA.

7 steam HOSE LINES	800.00
50'	224.00
1000' FT PIPE	80.00
SCAFOLD	900.00
	2004

15 WKS .. 3½ MO.

3 ½
6012
1002

EQUIP. $ 7,014

~~APROX 1000LB. CLEANING~~ SOAP.

MC CULLOUGH 1872 TONS

STEAM CLEAN LABOR

APROX. 4 DAYS PER WK
3 MEN

3 MEN : 15 WKS
$ 22,950 ~~[illegible]~~

510
7530
15
17650
7530
82950

510
3
1530
15
7650
1530
22,950

32
6
192

MISC. STEAM CLEANING

CITY WATER	300?
ELECT.	300?
SCRUB BRUSHES	40?
MISC.	1000
	1640

MCCOULLOUGH

STEAM CLEAN MATERIALS

CLEANING COMPOUND
1000 LB.s APROX 330.00

FUEL APROX 12½ GAL PER HR.
TOTAL FUEL APROX. 2000.00

GASOLINE APROX 100 GAL PER WK
1,200

TOTAL

MC CULLOUGH
STEAM CLEAN

LABOR	22,950
EQUIP.	7,014
MATERIALS	3,530
MISC.	1,640
COST –	34,134
	3413.40
	37,547.40

S-B & PAINTING
22% MARK UP 68,100

S-C 37,547.
8,260
45,807
45,807
113,907.

RECEIVED
APR 2 - 1969

6-4232

7203

April 2, 1969

Calvert Services, Inc.
321 - 12th North
Edmonds, Washington 98020

Gentlemen:

Enclosed are three copies of Contract No. 7203 for $68,100 awarded to you by the State Highway Commission on March 26, 1969. This contract is for maintenance painting on the Coos Bay (McCullough) Bridge on the Oregon Coast Highway in Coos County.

Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The calendar day count on this contract will begin April 14, 1969.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

gr
Enclosures

bc: Frank Morgan
D. J. Barbee
I. D. Merchant
C. D. Matthis (SIAC)
Eugene Ash
C. T. Keasey
E. S. Hunter

106-4233 Ben Chandler Br. over Coos R. 1969
on Coos River Hwy., E. of Eastside
#7204 (Maintenance painting)

Gen.
Files

RECEIVED
MAR 6 - 1970
FOR FILING

Claim 1474

FILED
CLAY MYERS

[illegible]

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

March 2, 1970

Rodda Paint Co.
6932 S.W. Macadam Avenue
Portland, Oregon 97219

Attention: Mr. E. C. Baumgardner

Gentlemen:

This is to acknowledge receipt of your claim letter of February 23, 1970, advising us that Tri-State Painting Company, Inc., owes you for paint materials in the amount of $1,729.60.

This appears to be in reference to the Tri-State Painting Company, Inc., Contract No. 7204 for maintenance painting on the Coos River (Ben Chandler) Drawbridge Section of the Coos River Highway in Coos County.

The Fidelity and Deposit Company of Maryland furnished the performance bond on this contract which is given to assure completion of the contract and payment of all bills incurred in it. We will advise the surety of the receipt of your claim and we will also forward it to the Secretary of State for filing.

Please notify this office when your claim has been paid.

Very truly yours,

3-4-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

C. W. HEAD

By
C. W. Head, Assistant Secretary

STATE HIGHWAY COMMISSION

CWH:or

cc: Fidelity & Deposit Co. of Maryland, Portland & Baltimore
Tri-State Painting Company, Inc.
Commission
Hon. Clay Myers - Please acknowledge receipt of this claim on the enclosed copy of this letter.

C. W. HEAD

Rodda PAINT CO. *Manufacturers* (R)
OREGON MADE
6932 S.W. MACADAM AVENUE · PORTLAND, OREGON 97219 · PHONE 244-7512

February 23, 1970

Oregon State Highway Department
State Highway Building
Salem, Oregon 97310

Re: Contract No. 7204
Ben Chandler Bridge

Gentlemen:

We have been informed that the above contract has been completed and accepted.

This letter is to notify you that we furnished paint materials in the amount of $1,729.60 to the contractor, Tri-State Painting Co., Inc., 9100 S. E. Stanley Avenue, Portland, Oregon 97206. This letter is also to notify you that a claim may be filed against their bond as we have not received any payments from this contract.

Very truly yours,

RODDA PAINT CO.

E. C. Baumgardner
E. C. Baumgardner

ECB:cjo
cc: Tri-State Painting Co., Inc.
Fidelity & Deposit Co. of Maryland

RECEIVED
FEB 24 1970
OREGON
STATE HIGHWAY COMMISSION

NOTED
FLOYD QUERY

RECEIVED
NOV 6 - 1969
FOR FILING

106-4233
7204

November 6, 1969

Fidelity & Deposit Co. of Md.
Portland Branch Office
900 Failing Building
Portland, Oregon 97204

Gentlemen:

Contract No. 7204 awarded to Tri-State Painting Company, Inc., for maintenance painting on the Coos River (Ben Chandler) Drawbridge Section of the Coos River Highway in Coos County was completed on September 26, 1969, and accepted by the Highway Commission on November 5, 1969.

Final payment in the amount of $2,006.70 will be released to the contractor after November 13, 1969. The total contract amount is $17,738.70 including $258.70 for work performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

or

cc: Tri-State Painting Company, Inc.
9100 S.E. Stanley Avenue
Portland, Oregon 97206

Fidelity & Deposit Co. of Md.
Baltimore,
Maryland

Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Herr
C. T. Keasey

RECEIVED
NOV 5 - 1969
FOR FILING

106-4233
7204

November 5, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed September 26, 1969, on Contract No. 7204. The contract was with Tri-State Painting Company, Inc., and was for maintenance painting on the Coos River (Ben Chandler) Drawbridge Section of the Coos River Highway in Coos County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective November 5, 1969, and that you concur in this procedure at the Commission meeting on November 18.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
F. B. Klaboe
V. D. Wolfe
V. E. Skoog
Ivan Merchant
F. D. Morgan
L. H. Young
C. T. Keasey

srb sr

106-4233
7204

FORM E-1 (REV 12-66)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: Coos River (Ben Chandler Drawbridge

WEEK ENDING: June 14, 1969

SECTION PREFIX: 106-4233

HIGHWAY: Coos River

COUNTY: Coos

NAME OF JOB: Coos River (Ben Chandler) Drawbridge

KIND OF WORK: Maintenance Painting

CONTRACTOR: Tri-State Painting Co., Inc.

CONTRACT NUMBER: 7204

FEDERAL AID PROJECT NUMBER: State

DATE OF CONTRACT: March 26, 1969

DATE WORK STARTED: May 26, 1969

ESTIMATED COMPLETION DATE: Sept. 1, 1969

AVERAGE FORCE ON PROJECT FOR THE WEEK:

MEN: 3 SUPERVISION: 1

SPECIFIED WORK DAYS:

WORK DAYS USED:

SPECIFIED CALENDAR DAYS: 180

CALENDAR DAYS USED: 58

SPECIFIED COMPLETION DATE:

PERCENT OF TIME ELAPSED: 32

PROJECT AUTHORIZATION: $ 20,987.85

EXCLUSIVE OF ENGINEERING: $ 19,154.85

ENGINEERING AUTHORIZATION: $ 1,833.00

PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 20

ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 19,154.85

ENGINEERING COST TO DATE: $ 995.00

PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 20

ESTIMATED PERCENT: OVERRUN / UNDERRUN ______ %

PERCENT OF AUTHORIZATION: 54 %

DATE PROJECT WAS COMPLETED:

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)					
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE					
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY 1					
HOURS PER SHIFT 8					

EQUIPMENT USED DURING THE WEEK:

1 trk., 1 water wagon, 1 steam cleaner, 1 high pressure pump, 2 air baskets, & 1
2 aluminum planking

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY 8	Overcast			
MONDAY 9	Rain			NOTED R. D. CHURCH
TUESDAY 10	Overcast			
WEDNESDAY 11	Overcast			RECEIVED
THURSDAY 12	Overcast			
FRIDAY 13	Overcast			CONSTRUCTION
SATURDAY 14	Fair			DIVISION BEN GIFFORD

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY 8	3 men with high pressure hose washing down south end of superstructure
MONDAY 9	4 men set steam cleaner on east side of lift span on parapet rail
TUESDAY 10	Equipment down untill noon to repair water hoses. 4 men steam cleaning supere structure of south truss, bay 3 to bay 4
WEDNESDAY 11	4 steam cleaning & washing down superstructure of south truss, bay 4 to bay 6
THURSDAY 12	4 men finished steam cleaning superstructure of south truss 1 man painted south half of the S.W. hand rail 3rd coat 14-64
FRIDAY 13	3 men steam cleaning south truss superstructure. 1 man painting hand rail on east side of south truss.
SATURDAY 14	steam cleaning floor system of south truss.

REMARKS

John Quiner on project wednesday to check bulge in back to back angles between 12" rivit spaceing in vertical wind braceing & plates attached to hangers approx. 15' above roadway.

SIGNED Eugene K Ash LOCATION Coquille

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES

SP*F216

RECEIVED
APR 8 - 1969

FOR FILING

106-4233
7204

April 7, 1969

Tri-State Painting Company, Inc.
9100 S.E. Stanley Avenue
Portland, Oregon 97206

Gentlemen:

Enclosed are three copies of Contract No. 7204 for $17,480 awarded to you by the State Highway Commission on March 26, 1969. This contract is for maintenance painting of the Coos River (Ben Chandler) Drawbridge on the Coos River Highway in Coos County.

Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The calendar day count on this contract will begin April 18, 1969.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Enclosures

bc: Frank Morgan
D. J. Barbee
I. D. Merchant
C. D. Matthis (SIAC)
Eugene Ash
C. T. Keasey
E. S. Hunter

9-1126 Cloverdale Road (MP 4.5) Section 1969
of McKenzie-Bend Hwy., NW of Bend
#7205 (Grading & Paving)

RECEIVED
JUL 24 1969
FOR FILING

9-1126
7205

July 24, 1969

General Insurance Co. of America
Portland Service Office
520 S. W. 6th Avenue
Portland, Oregon 97204

Gentlemen:

Contract No. 7205 awarded to R. L. Coats for grading and paving the Cloverdale Road (M. P. 4.5) Section of the McKenzie-Bend Highway in Deschutes County was completed on June 4, 1969, and accepted by the Highway Commission on July 23, 1969.

Final payment in the amount of $2,381.02 will be released to the contractor after July 31, 1969. The total contract amount is $46,751.08 including $599.86 for work performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

ses

cc R. L. Coats
1270 Trenton Avenue
Bend, Oregon 97701

bcc J. F. Putnam
Frank Morgan
V. E. Skoog
Attn: John Herr

RECEIVED
JUL 24 1969
FOR FILING

9-1126

7205

July 23, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed June 4, 1969, on Contract No. 7205. The contract was with R. L. Coats and was for grading and paving on the Cloverdale Road (M.P. 4.5) Section of the McKenzie-Bend Highway in Deschutes County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective July 23, 1969, and that you concur in this procedure at the Commission meeting on August 19.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

R. L. Porter
Deputy State Highway Engineer

cc: Floyd Query
F. B. Klaboe
Victor D. Wolfe
V. E. Skoog
L. H. Young
F. D. Morgan
J. F. Putnam

srb ar

9-1126
7205

C

FORM E-1 (REV 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: Cloverdale Road (MP 4.5)
WEEK ENDING: June 21, 1969
SECTION PREFIX: 9-1126
HIGHWAY: McKenzie - Bend
COUNTY: Deschutes
NAME OF JOB: Cloverdale Road (MP4.5)
KIND OF WORK: Grading and paving
CONTRACTOR: R. L. Coats
CONTRACT NUMBER: 7205
FEDERAL AID PROJECT NUMBER: State
DATE OF CONTRACT: March 26, 1969
DATE WORK STARTED: April 4, 1969
ESTIMATED COMPLETION DATE: Complete, SF Est. 7/1/69
AVERAGE FORCE ON PROJECT FOR THE WEEK
MEN: SUPERVISION:
SPECIFIED WORK DAYS:
WORK DAYS USED:
SPECIFIED CALENDAR DAYS: 65
CALENDAR DAYS USED: 48
SPECIFIED COMPLETION DATE:
PERCENT OF TIME ELAPSED: 74
PROJECT AUTHORIZATION: $ 62,471.77
PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 100
EXCLUSIVE OF ENGINEERING: $ 57,015.72
ENGINEERING AUTHORIZATION: $ 5,456.05
PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 84
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 47,123.00
ENGINEERING COST TO DATE: $ 5,464.00
DATE PROJECT WAS COMPLETED: June 4, 1969
ESTIMATED PERCENT XXXXXX UNDERRUN Tot. Auth. 15 %
PERCENT OF AUTHORIZATION: 100.1%

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED	0.38	0.38		0.38	0.38
TOTAL ESTIMATED QUANTITIES (CONTRACT)	10,250 CY	3,450 CY		60 CY 10 T	1,780 T
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE	10,270	3,286		96 10	1,643
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY				
MONDAY				
TUESDAY				
WEDNESDAY				
THURSDAY				
FRIDAY				
SATURDAY				

Routing
Morgan
Parker
Bond
Walker
Boehme
Johnson
Glenn
Litchfield

RECEIVED
JUN 23 1969
CONSTRUCTION DIVISION

NOTED
R. D. CHURCH

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY	
MONDAY	
TUESDAY	
WEDNESDAY	
THURSDAY	
FRIDAY	
SATURDAY	

REMARKS

No work on the estimate this week.

SIGNED R. H. Clark LOCATION Bend
R. H. Clark, Res. Eng'r.

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

SP*F216

RECEIVED
APR 8 - 1969

FOR FILING

9 - 1126

7205

April 7, 1969

Mr. R. L. Coats
1270 Trenton Avenue
Bend, Oregon 97701

Dear Mr. Coats:

Enclosed are three copies of Contract No. 7205 for $47,060.50 awarded to you by the State Highway Commission on March 26, 1969. This contract is for grading and paving on the Cloverdale Road (M.P. 4.5) Section of the McKenzie-Bend Highway in Deschutes County.

Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The calendar workday count on this contract will begin April 18, 1969.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

mr
Enclosures

bc: Frank Morgan
D. J. Barbee
I. D. Merchant
C. D. Matthis (SIAC)
R. H. Clark
J. F. Putnam

RECEIVED
JAN 23 1969
FILES

9-1126

7205

2590

January 22, 1969

Oregon State Highway Commission

Gentlemen:

The survey on the Cloverdale Road (M.P. 4.5) Section on the McKenzie-Bend Highway in Deschutes County has been completed. This project involves the improvement of both vertical and horizontal alignment of a short section located about five miles easterly of Sisters. A public hearing is not required for this section. The length of this section is 0.47 mile and a map is attached for your information.

The estimated cost of construction is $85,000 and the estimated cost of right-of-way is $1,200 for a total cost of $86,200. This project has been approved for financing and is listed on the current State Construction Program.

We recommend your approval of this survey and request authorization for the purchase of the necessary right-of-way. This project is scheduled for an early spring letting.

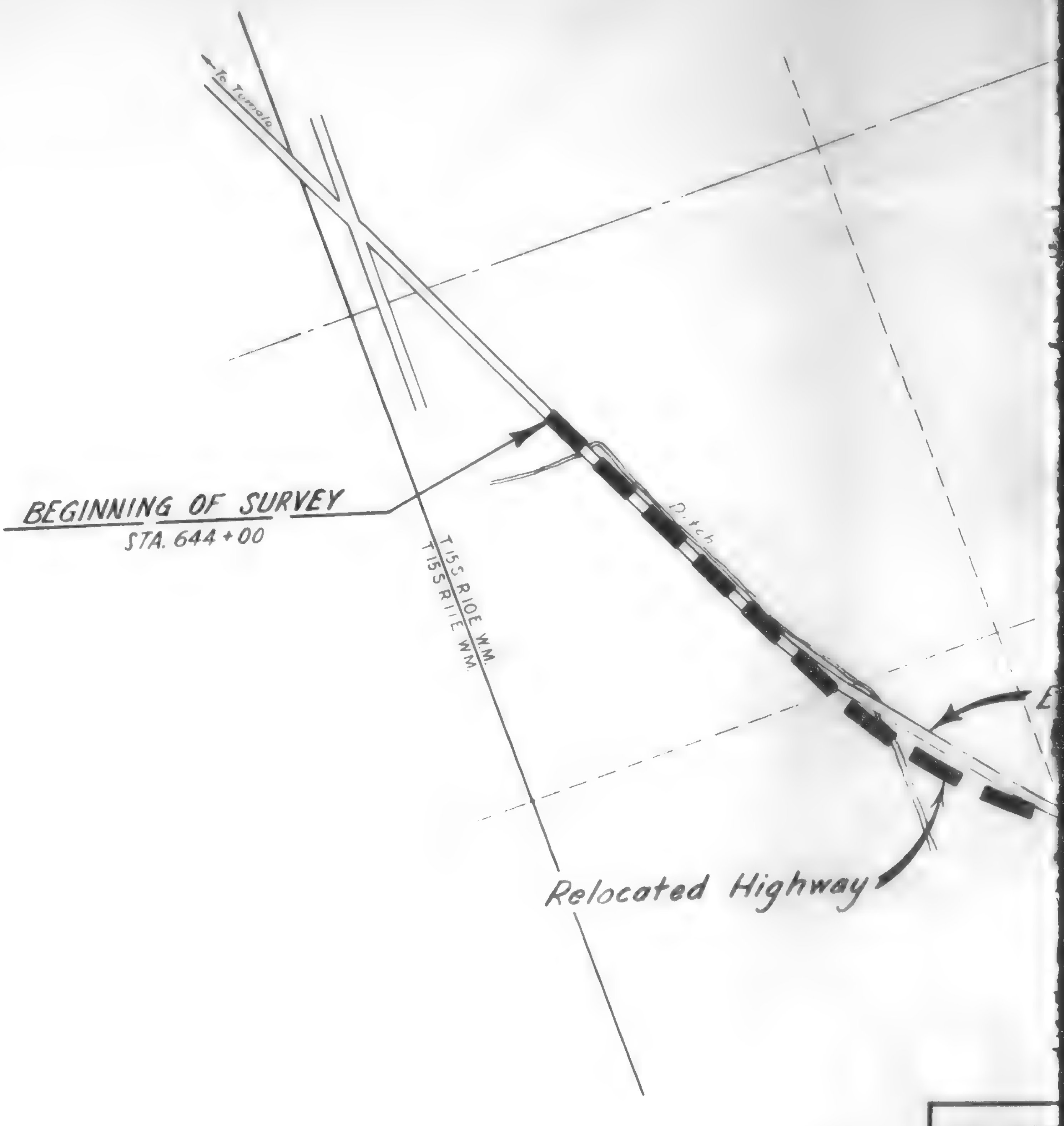
This matter will be on the agenda for your consideration at the January 28 meeting.

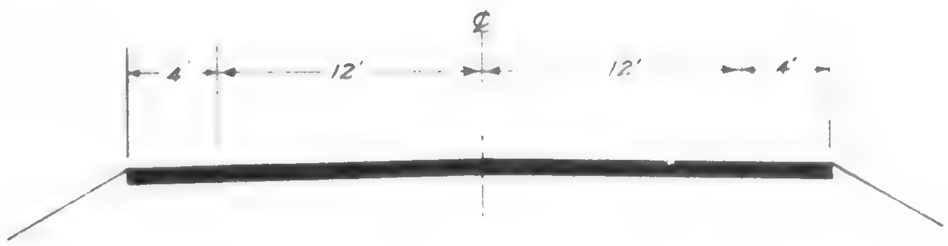
Very truly yours,

Forrest Cooper
State Highway Engineer

Attachment

BG:ia lms
bc: Floyd Query
R. L. Porter
F. B. Klaboe
Victor D. Wolfe
D. J. Barbee
F. D. Morgan
L. H. Young
C. H. Maison
D. H. Moehring
J. F. Putnam


To Tumalo
BEGINNING OF SURVEY
STA. 644+00
T.15S R.10E W.M.
T.15S R.11E W.M.
Ditch
E
Relocated Highway



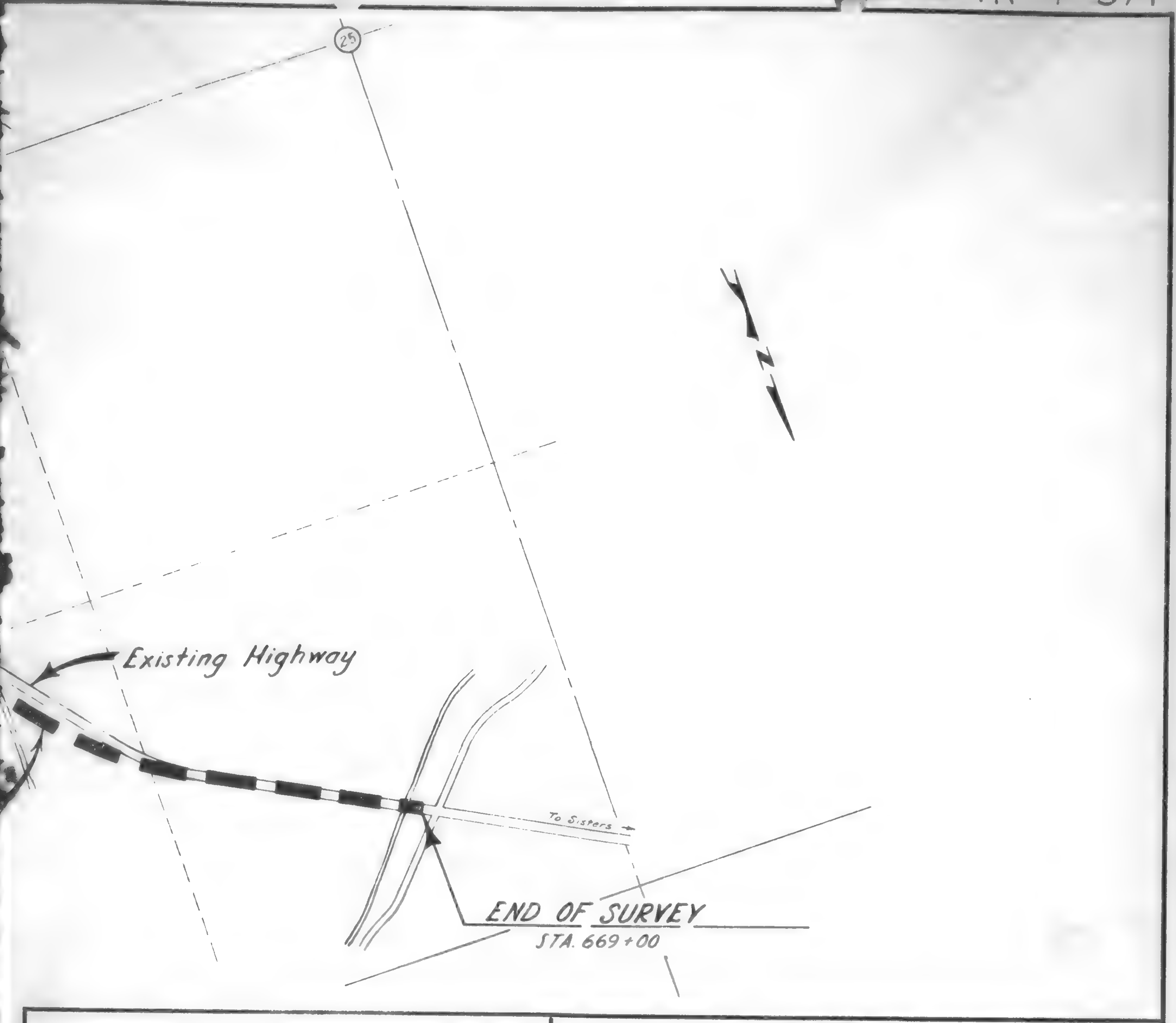
TYPICAL SECTION

PUBLIC HEARIN
SYSTEM ACTIO
COL
STAT
BUR
THROUGHWAY
ACCESS CONTR

APPROVE

0.47 Mile

RG. NO. 1R-4-371



PUBLIC HEARING	None Required
SYSTEM ACTION	
COUNTY	None Required
STATE HIGHWAY COMMISSION	None Required
BUREAU OF PUBLIC ROADS	None Required
THROUGHWAY RESOLUTION ADOPTED	None Required
ACCESS CONTROL	None Required

APPROVED: JAN 2 1 [illegible] 19

ORIGINAL SIGNED
R. L. PORTER
DEPUTY STATE HIGHWAY ENGINEER

OREGON STATE HIGHWAY DEPARTMENT
SURVEY APPROVAL MAP

CLOVERDALE RD. (MP. 4.5) SEC.

McKENZIE - BEND HIGHWAY
DESCHUTES COUNTY
DRG. NO. 1R-4-371

SCALE: 1" = 400
DATE: January, 1969
FOR DETAILS SEE DRG. NO. 10C-47-3

ADOPTED BY COMM.____________

RECEIVED
DEC 13 1968

FOR FILING
9-1126

7205

December 12, 1968

Oregon State Highway Commission

Gentlemen:

Improvements on the McKenzie-Bend Highway in Deschutes County, while desirable, have been delayed because of nonavailability of funds. As an interim measure, it would be practical to correct a short section of poor vertical and horizontal alignment situated at Mile Point 4.3. This section is about 2,000 feet in length and is estimated to cost $85,000, with right-of-way $1,500 additional.

Your approval to place such a project on the current State Construction Program is requested, with authorization to proceed with right-of-way acquisition and construction to follow when funds are available.

The matter will be on the agenda for your consideration at the December 17 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

R. L. Porter
Deputy State Highway Engineer

BG:slh/RLP:ms lms
bc: Floyd Query
F. B. Klaboe
Victor D. Wolfe
L. H. Young
D. J. Barbee
F. D. Morgan
C. H. Maison
D. H. Moehring
J. F. Putnam

10-4218 Umpqua River Drawbridge , on 1969
Oregon Coast Hwy. in Reedsport
#7206 (Maintenance painting)

RECEIVED
SEP 22 1969
FOR FILING

10-4218
7206

September 19, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed August 6, 1969, on Contract No. 7206. The contract was with B-C Paint Company and was for maintenance painting on the Umpqua River Drawbridge Section of the Oregon Coast Highway in Douglas County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective September 19, 1969, and that you concur in this procedure at the Commission meeting on September 30, 1969.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
F. B. Klaboe
Tom Edwards
Victor D. Wolfe
L. H. Young
F. D. Morgan
Ivan D. Merchant
V. E. Skoog
C. T. Keasey

sr

C

RECEIVED
NOV 1 - 1969

FOR FILING

10-4218

7206

September 19, 1969

United Pacific Insurance Co.
Fidelity & Surety Department
P. O. Box 1216
Tacoma, Washington 98401

Gentlemen:

Contract No. 7206 awarded to D-G Paint Company for maintenance painting of the Umpqua River Drawbridge on the Oregon Coast Highway in Douglas County was completed on August 6, 1969, and accepted by the Highway Commission on September 19, 1969.

Final payment in the amount of $1,651.00 will be released to the contractor after September 26, 1969. The total contract amount is $33,378.26 including $78.26 for work performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

aj

cc D-G Paint Company
16637 Marine View Dr., S.W.
Seattle, Washington 98166

bc Carroll T. Keasey
Frank Morgan
V. E. Skoog
Attn: John Herr

10-4218
7206

FORM E-1 (REV 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: Umpqua River Drawbridge

WEEK ENDING: June 14, 1969

SECTION PREFIX: 10-4218

HIGHWAY: Oregon Coast

COUNTY: Douglas

NAME OF JOB: Umpqua River Drawbridge

KIND OF WORK: Maintenance Painting

CONTRACTOR: D&G Paint Co.

CONTRACT NUMBER: 7206

FEDERAL AID PROJECT NUMBER: State

DATE OF CONTRACT: March 26, 1969

DATE WORK STARTED: June 13, 1969

ESTIMATED COMPLETION DATE: Oct. 14, 1969

AVERAGE FORCE ON PROJECT FOR THE WEEK:

MEN: 1 SUPERVISION 1

SPECIFIED WORK DAYS

WORK DAYS USED

SPECIFIED CALENDAR DAYS 180

CALENDAR DAYS USED 58

SPECIFIED COMPLETION DATE

PERCENT OF TIME ELAPSED 32

PROJECT AUTHORIZATION $ 39,239.15

EXCLUSIVE OF ENGINEERING: $ 35,812.15

ENGINEERING AUTHORIZATION $ 3,427.00

PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST 0

ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 35,812.15

ENGINEERING COST TO DATE $ 35.00

PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION 0

ESTIMATED PERCENT: OVERRUN UNDERRUN ______%

PERCENT OF AUTHORIZATION 1 %

DATE PROJECT WAS COMPLETED

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L PROD		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)					
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE					
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:

None

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

		WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY	8	Overcast			
MONDAY	9	Rain			
TUESDAY	10	Overcast			
WEDNESDAY	11	"			
THURSDAY	12	"			
FRIDAY	13	Overcast			
SATURDAY	14	Fair			

RECEIVED
CONSTRUCTION
DIVISION

NOTED
R. D. CHURCH

BEN GIFFORD

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY	
MONDAY	
TUESDAY	
WEDNESDAY	
THURSDAY	
FRIDAY 13	2 men rigging cables above and below deck, unloading hoses and equipment.
SATURDAY 14	No activity planned, unless more rigging.

REMARKS

Steam cleaner wasn't ready so contractor picking it up Monday in Portland. Should be in production on Tuesday.

SIGNED ______________ LOCATION Coquille

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

RECEIVED
APR 8 - 1969
FOR FILING
10 - 4218

7206

April 7, 1969

B-G Paint Co.
16637 Marine View Dr., S.W.
Seattle, Washington 98166

Gentlemen:

Enclosed are three copies of Contract No. 7206 for $33,020 awarded to you by the State Highway Commission on March 26, 1969. This contract is for maintenance painting of the Umpqua River Drawbridge on the Oregon Coast Highway in Douglas County.

Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The calendar day count on this contract will begin April 18, 1969.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Enclosures

bc: Frank Morgan
D. J. Barbee
I. D. Merchant
C. D. Matthis (SIAC)
Eugene Ash
C. T. Keasey
E. S. Hunter

17-1118 Wilderville-Sauers Flat Section 1969
of Redwood Hwy., SW of Grants Pass
#7207 (Grading & paving)

RECEIVED
MAR 5 - 1970
FOR FILING
17-1118

7207

#6

3

February 10, 1970

Page Paving Company
P. O. Box 2206
Salem, Oregon 97308

Gentlemen:

The State Highway Commission at its meeting on February 3, 1970, granted your request for an 11-day time extension, without assessment of liquidated damages, on Contract No. 7207 for grading and paving Wilderville-Bauer's Flat Section of the Redwood Highway in Josephine County.

Very truly yours,

Lloyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

bc: F. D. Morgan
V. E. Shoog
C. T. Kensey
Al Chapman

RECEIVED
FEB 11 1970
FOR FILING

17-1118
7207

February 10, 1970

Wells-Head-Hand-West Company
412 Failing Building
Portland, Oregon 97204

Gentlemen:

A post-final payment for $1,100 will be made to Page Paving Company on Contract No. 7207 for grading and paving Wilderville-Gamer's Flat Section of the Redwood Highway in Josephine County as soon as the warrant is prepared.

The total amount paid on this contract will be $423,462.02 including the post-final payment. Of the total $7,856.86 is for force account.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fm

cc Page Paving Company
P. O. Box 2286
Salem, Oregon 97308

Great American Insurance Co.
2030 Ninth Avenue
Seattle, Washington 98121
Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Herr
C. T. Keasey

RECEIVED
JAN 28 1970
FOR FILING

17-1118

7207

January 28, 1970

Oregon State Highway Commission

Gentlemen:

Request for Extension of Time
No. 6
February 3, 1970 meeting

Page Paving Company, contractor on the Wilderville-Sauers Flat Section of the Redwood Highway in Josephine County, Contract No. 7207, has made a second request for an 11-day time extension. Both requests have been based on alleged inadequate time for delivery of guardrail materials.

The main contract work consisted of widening and paving and was completed before the contract time allowed had expired. The contractor has now submitted documentation in the form of copies of his purchase order, bills of lading and correspondence with the rail material supplier which do show that a reasonable effort was made to secure all the necessary materials within the time allowed. The rail work involved special sections to connect to six structures and some specially bent rail for some curved installations.

I recommend an 11-day extension. This will delete all liquidated damages which have been assessed in the amount of $1,100. This is a State project.

This matter will be on the agenda for your consideration at the February 3 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
F. B. Klaboe
V. D. Wolfe
V. E. Skoog
C. T. Keasey F. D. Morgan
JAB:fw sr NOTE: NO FORMS SUBMITTED

FORM E-90 (12-67)

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
January 22, 1970

SUBJECT: Wilderville-Sauers Flat Section
Contract No. 7207
Second Request for Time Extension

To:

Mr. F. B. Klaboe
Assistant State Highway Engineer
BUILDING

Page Paving Company has made a second request for an 11-day time extension which would delete all liquidated damages on this project. This request is based on alleged insufficient time for delivery of guardrail material after the detailed requirements were given to the contractor. The first request, which was based on the same reason, was declined at the November 18, 1969 Commission meeting.

Shortly after that date, Mr. Bob Laam of Coral Corporation, the guardrail subcontractor, discussed this matter with me in our office. I told him we would reconsider a second request but that he should offer specific information and dates to justify it. He subsequently came forth with the attached four-page letter and 17 exhibits which I must admit merit our reconsideration of the request. Two points are pertinent:

1. The contractor did try to expedite delivery. The detailed list of guardrail was given to the contractor on July 11. The subcontractor's purchase order for the complete guardrail material is also dated July 11, 1969 and he requested two-week delivery. I would agree that once they had the list of guardrail material needed, they made a reasonable effort to secure it and install it.

2. Did the contractor have to wait for the list to get the rail? The actual quantities and plans are close to the bid. The contractor explains his position on not ordering material earlier by citing two factors -- they were apprehensive of possible guardrail changes. I believe this would be a legitimate concern in that we have made frequent and extensive changes in guardrail items during contracts the past year or so. He also cites the possible hazard to traffic had they installed the posts only or even the posts and the straight standard sections of rail without the curve sections at approaches and the special curve sections at the connections to six structures. They argue that it was safer to wait until delivery was assured and then install the complete rail in the shortest possible time. We must agree that this was probably the best practice.

After studying all this new material, the Division Office has now recommended that the extension be granted. They cite that due to the steeper slopes behind some of the guardrail locations, the presence of several road approaches near the end of structures which required curved rail, the utilization of all the available roadway width for paving (the project has a narrower typical roadbed section on the existing pavement than on the regraded sections), it was not practical to stake the rail or commit ourselves to specific quantities until the paving was completed. We have to agree that in the absence of other and earlier instruction to the contractor, he was justified in waiting until the detailed needs were given to him.

We therefore concur in recommending the 11-day extension which will delete all liquidated damages in the amount of $1,100. This was a State project. A rough draft letter to the Highway Commission is attached.

F. D. Morgan
Construction Engineer

By John A. Bond
John A. Bond
Construction Administration Engineer

JAB:fw
Attach.
cc V. L. Gallagher

RECEIVED
JAN 22 [illegible]
OFFICE OF
STATE HIGHWAY ENGINEER

CORAL CORPORATION
P. O. BOX [illegible]
135 EAST HERFORD ST.
GLADSTONE, OREGON

December 16, 1969

Page Paving Company
P.O. Box 2206
Salem, Oregon 97308

Attention: Emerson B. Page, President

Reference: Wilderville-Sauer's Flat
OSHD Contract 7207
Request for 11-day extension of time

Dear Sirs:

Following receipt of Mr. Bond's letter of November 24, 1969, and my subsequent meetings with both yourselves and Mr. Bond regarding this letter, it was felt that perhaps more information regarding order dates, receipt of material dates, etc., might be helpful in an appeal to the decision to reject our request for a time extension. We, therefore, submit:

Exhibit 1 - July 11, 1969 letter from Page to Chapman, original request for a shutdown order due to 6-8 week wait for material.

Exhibit 2 - July 17, 1969 letter from Chapman to Page denying request.

Exhibit 3 - July 18, 1969 letter from Page to Coral informing us of Page's request for elimination of guardrail items.

Exhibit 4 - July 18, 1969, Page's letter to Chapman requesting elimination of guardrail items.

Exhibit 5 - July 22, 1969 Chapman letter to Page denying request for elimination of rail.

Exhibit 6 - Chapman letter to Coral adding 163 Guide Posts (actually add 146). This item alone should be worth two extra days time extension.

Exhibit 7 - Itemized list of guardrail runs, bridge connections, terminal anchors, curved rail, safety curb width, etc. This list was received July 11, 1969. As you can see, the matter of concave or convex on the curved rail still had to be clarified.

Exhibit 8 - Copy of our Purchase Order dated July 11, 1969 to Syro Steel ordering all of the guardrail, end pieces, bridge connections, terminal anchors, curved rail, etc., on the same day Exhibit 7 list was received. Also, please note the date required specified on our purchase order--two week delivery requested. Unfortunately, our numerous telephone requests to our supplier regarding delivery date of these items are not recorded.

Exhibit 9 - Copy of our foreman's daily report of August 4, 1969 showing that posts were unloaded and distributed on this project on this date.

Exhibit 10 - Copy of our foreman's daily report of September 9, 1969 showing post installation started.

Exhibit 11 - September 18, 1969 letter Coral to Page requesting an extension of time. This was in answer to telephone conversation and a copy of Oregon State Highway Department Weekly Statement of Calendar Day Charges informing us that September 15, 1969 was final day before penalty started.

Exhibit 12 - September 19, 1969 note regarding changes on curved rail (four days after penalty started). No 10' radius on original order.

Exhibit 13 - Copy of Southern Pacific freight bill showing shipping date of August 29, 1969.

Exhibit 14 - Freight bill showing unloading date. Same date that car arrived and same date that work started (see Exhibit 10).

Exhibit 15 - Copy of our request of October 3, 1969 for an increase in time, with attachment explaining our request.

Exhibit 16 - Copy of Bond's letter of November 24, 1969 denying request.

Exhibit 17 - September 17, 1969 Coral letter to our supplier, Syro Steel Company, regarding shortages on original shipment.

The purpose of all of these exhibits is not to confuse, but, rather, to show that everything we thought could be done was done. In all fairness to everyone, we did not consider time to be a problem, as did Mr. Page in Exhibits 2 through 5. We told this to Mr. Chapman at the time, that all we needed was the material and we would be finished with the job in approximately three weeks.

I would also like to point out at this time that I had numerous conversations with both Mr. Chapman and Mr. Page regarding installation of posts prior to receipt of guardrail and end sections. It was our feeling at that time, and is the same today, that this project has absolutely no shoulders and the posts are installed right next to the travel lane. Consequently, any posts that might be installed prior to hanging of steel would present a worse hazard to the traveling public than no posts at all. At least, they were used to this! Also, even if steel were to be hung on these posts, without the terminal and bridge connections we would just be leaving a straight section of rail sticking out for traffic to impale itself upon. This, we felt, was an even worse hazard than nothing at all. The above problems were in addition to the fact that it would be our responsibility to maintain the guardrail until the project was complete. We, therefore, electedat the time to wait until all materials were on hand before starting work.

About August 4, 1969 we were verbally told by our supplier that this material was leaving immediately. We then started to work (Exhibit 9). After further checking (asking for car numbers, etc., so that we might trace), we found this was not true. Approximately September 5 we received copy of invoice from our supplier that the car with our material had shipped August 29, 1969. We have had experience before with rail cars being delayed. misrouted, etc., also, no one could tell us if all items were in the car. The car finally arrived, and it was unloaded on September 9, 1969 (Exhibit 14). Also the same day we started work (see Exhibit 11), even though all material was not received (see note on Exhibit #11 and #17. Also, it is obvious in Exhibit 14 that the rods, terminals and shackles for the anchors were missing.

It should also be mentioned that from our time sheets, certified payrolls, etc., that even though the penalty was comparatively small ($100 per day), on almost every work day overtime was worked for one and two hours. I am sure everyone can realize it is not economical to pay 8 to 11 men time and one-half on a $100 per day penalty job, but to expedite the job, we elected to do this.

Also, in talking to Mr. Bond about his letter,Exhibit 16,regarding his inquiry to one of the largest guardrail suppliers, he informed this was Armco Steel Corporation. This was surprising to us, as Armco does not supply the specialty items that held up the project--bridge connections, terminal anchors, etc. We tried to point this out in our attachment to Exhibit 15. It is also pointed out in Mr. Bond's letter that 44% of the contract time, 66 days, were left when we received the guardrail lengths, bridge connections, quantities, etc. I think it should also be noted that 56% of the time had elapsed to get the order lengths and quantities and only 44% of the time to order material, manufacture, install, etc.

It apparently has been everyone's concern in the denial of our request that from the 11th of July (the date material quantities received) until September 9, 1969 (date material received), there was no construction time on our part. Once again I would like to point out that there may have been dead time here, but at least there were no dead people due to black guardrail posts sitting on the pavement edge or still sticking out with no end connections on them.

Therefore, we respectfully request that our original request, Exhibit 15, be reconsidered.

Cordially,

Robert D. Laam
Secretary-Treasurer

RDL:nm

Enclosures

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FOR FILING

17-1118
7207

agenda 11-18-69
39 #18

November 20, 1969

Page Paving Company
P. O. Box 2206
Salem, Oregon 97308

Gentlemen:

The State Highway Commission at its meeting on November 18 considered your request for an extension of time of 11 days on Contract No. 7207 for grading and paving the Wilderville-[illegible]er's Flat Section of the Redwood Highway in Josephine County.

Careful consideration was given to the reasons you submitted. However, in light of the available facts and the provisions of the contract, the Commission denied your request.

If there are pertinent facts which have not yet been considered, you should contact the Resident Engineer, the Division Engineer, or the Construction Engineer in the Salem Office.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

2j
cc F. D. Morgan
V. E. Skoog
C. T. Kessey
E. L. Chapman

C

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FOR FILING

17-1118
7207

November 7, 1969

Oregon State Highway Commission

Gentlemen:

Request for Extension of Time
No. 18
November 18, 1969 meeting

Page Paving Company, contractor on the Wilderville-Sauers Flat Section of the Redwood Highway, in Josephine County, Contract No. 7207, requests an 11-day extension of the contract time because of alleged inadequate time to secure delivery of guardrail and sight post materials.

The guardrail work was covered by regular bid items. A detailed listing of the actual quantities needed was given to the contractor on July 11, which was about midway in the contract time allowed. On that date, there were still 66 days remaining of the original 130 calendar workdays allowed. So far as we can determine, this was ample time to secure and install the rail. Sight posts were added to the contract by a separate order later in July, but we believe the same circumstance exists in that a reasonable amount of contract time was left in which to accomplish this.

I therefore recommend that the request for time extension be denied. This is a State project which was completed on September 26, 1969, with 11 days liquidated damages accrued in the amount of $1,100.

This matter will be on the agenda for your consideration at the November 18 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
F. B. Klaboe
V. D. Wolfe
V. E. Skoog
F. D. Morgan
C. T. Keasey

JAB:fw sr

FORM E-30 (12-67)

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon

November 5, 1969

SUBJECT: Wilderville-Sauers Flat Section
Contract No. 7207
Request for Time Extension

To:

Mr. F. B. Klaboe
Assistant State Highway Engineer
BUILDING

Page Paving Company requests an 11-day time extension because of alleged delay in delivery of guardrail materials, and the addition of 163 guide posts added by Price Agreement.

Workday count started April 19 with 150 days allowed which expired September 15. The project was actually completed September 26 with 11 days liquidated damages accrued amounting to $1,100. The guardrail was actually built substantially in accordance with the plans and within the contract quantities (225 feet Type 2 guardrail equals 32 percent underrun and 3,371 feet Type 2A guardrail equals 13.6 percent underrun). Terminal anchors and extra for bridge connections were also within the contract quantities and in accordance with the plans. The list of actual guardrail needs was given to the contractor on July 11 when 84 days or 56 percent of the contract time had elapsed but there were 66 days left. So far as we can determine, this was plenty of time to acquire the rail and get it installed. We have checked with one of the main suppliers and were advised that they need about a month for delivery. The guide posts were added on July 23 which left adequate time to acquire and install this stock item.

We therefore recommend that the request be denied. This is a State project. A rough draft letter to the Highway Commission is attached.

F. D. Morgan
Construction Engineer

By John A. Bond
John A. Bond
Construction Administration Engineer

JAB:fw
Attach.
cc V. L. Gallagher

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NOV 6 1969
OFFICE OF
STATE HIGHWAY ENGINEER

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request for Increase in Number of Workdays to Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 7207 Contractor Page Paving Company

Highway Redwood

Section Wilderville - Sauers Flat

Kind of Work Grading & Paving

It is recommended that the request for increase in the number of workdays within which to complete said contract be **DENIED** ~~**or GRANTED**~~. The reasons for such recommendation are as follows:

The 66 days available for guardrail work is believed adequate.

Recommended for Approval:

John Asst.
Division Engineer

for
Construction Engineer or Bridge Engineer

F B Klaboe
State Highway Engineer

Contract No. 7207
Project designation State (State-Federal)
Date awarded 3-26-69
Work started 4-8-69
Per cent completed 100% 9-25-69 (Date)
No. of Workdays Allowed 150
No. of Workdays Used 161
No. of Added Workdays Requested 11

E—220 (Rev.)—5M—10-57

OREGON STATE HIGHWAY COMMISSION

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon

Date October 3, 1969

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from 150 days to 161 days, within which to complete our Contract No. 7207, without the assessment of liquidated damages. The said contract is described as follows: Wilderville-Sauer's Flat Section, Redwood Highway, Josephine County - Grading and Paving

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows:

See attached.

Respectfully submitted,

PAGE PAVING COMPANY
Contractor

By Pres.

CONSENT OF SURETY

Date OCTOBER 7th, 1969

We, GREAT AMERICAN INSURANCE COMPANY, as surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

GREAT AMERICAN INSURANCE COMPANY
BY: Fred Reed
FRED C. REED Attorney-in-fact
COUNTERSIGNED:
WELLS-REED-WOOD-WEST Co.
Resident Agent
BY: Fred Reed

(SEAL)

Attachment to Form E-320 (OSHD)

Contractors Request for Increase in Number of Workdays to Complete Construction Contract

Re: Wilderville-Sauer's Flat Section, Contract #7207

Guard rail order quantities were not received until July 11, 1969. Because of the special rail sections and end pieces involved, our supplier was unable to have the guardrail material on the job until September 10, 1969. To the best of our knowledge, special guardrail bridge connection hardware is not stocked by any supplier. Since this bridge end connection material is made to order only, and subject to continual design change by the Department, we hesitated to order it till final quantities were known and received from the Department.

All of the work was completed on September 26, 1969. This also included installation of 163 additional guide posts which were added to the project on July 23, 1969.

To the best of our knowledge, the travelling public was not inconvenienced in any way during the course of our work.

Therefore, we respectfully request that the number of workdays for completion of this project be increased from 150 to 161 for the reasons stated in the foregoing.

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DEC 24 1969
FOR FILING

17-1118
7207

December 22, 1969

Page Paving Company
P. O. Box 2206
Salem, Oregon 97308

Attention: Mr. Emerson B. Page
President

Gentlemen:

This morning we received your letter of December 19 to which were attached several pages of information supporting a request for reconsideration of the assessment of liquidated damages ordered by the Commission at its meeting of November 18 on Contract No. 7207.

Your letter and the attached information is being forwarded to the attention of the Construction Engineer.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

FQ:cr

bc: F. D. Morgan
Construction Engineer
(Attachments)

~~Copy to Rhode~~
~~Skoog~~

~~(Talbot to McKinney~~
~~& Don Taylor)~~
~~[illegible]~~
~~FG~~

PAGE PAVING COMPANY

GENERAL HIGHWAY CONSTRUCTION .... MAILING ADDRESS: P. O. BOX 2206, SALEM, OREGON 97308

EMERSON B. PAGE, PRESIDENT
ARTHUR B. WOODS, VICE-PRESIDENT
JEANNE B. PAGE, SEC.-TREAS.

EQUAL OPPORTUNITY EMPLOYER

TELEPHONE 585-2686

December 19, 1969

Oregon State Highway Commission
State Highway Building
Salem, Oregon 97310

ATTENTION: Floyd Query, Secretary

Gentlemen:

RE: Wilderville-Sauer's Flat
OSHD #7207

Your letter of November 20, 1969, refers to a denial of our request for an extension of time of 11 days on subject contract. The letter also mentions that if we have any more pertinent data that we so contact the engineers concerned with this particular contract. Enclosed is the correspondence from our Sub-contract, Coral Corporation, together with miscellaneous supporting documents.

We are requesting that this additional information be considered in our request for a reconsideration of the Commission's decision of November 18th.

Very truly yours,

PAGE PAVING COMPANY

Emerson B. Page
President

EBP:jm
cc Coral Corporation
Enclosure

The data submitted was sent to the Construction Engineer.

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[illegible]

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OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

F. B. KLABOE

November 28, 1969

17-1118

7207

Emerson B. Page, President
Page Paving Company
P. O. Box 2206
Salem, Oregon 97308

Re: Wilderville-Sauers Flat Sec.
Redwood Highway
Contract No. 7207
FBK Assignment No. 3138

3138

Dear Sir:

The following information is submitted as requested per your letter dated November 19, 1969.

Item 1 - The calculations are based on the Schedule of Liquidated Damages Per Layer Per Unit in Article 320-3.19 of the supplemental standard provisions dated March 1, 1967, titled Deficiency of Compacting and Liquidated Damages, contained in the contract. A copy of these calculations are attached.

Item 2 - Cores for compaction determination on this project were cut on June 23 and July 7 &8, 1969. Field test results from these cores indicated a substantial number to have less than the specified compaction required. The Resident Engineer, A. L. Chapman, notified your representative, Frank Bursin, of this fact upon receipt of the results. These same cores were sent to our Central Laboratory in Salem and tested, the results of which were mailed to your office on July 3 and July 23, 1969.

Item 3 - No desire to make corrections was given by you or your representative, Frank Bursin, even though the Resident Engineer informed him there would probably be a penalty as indicated by the field test results.

Item 4 - It is the intent of the specification that the specified compaction be obtained at the time of placement. Satisfactory results obtained on re-cores taken at this time would indicate that traffic during the past four months has completed the densification of the material for you, and therefore would not relieve you of your responsibility.

Very truly yours,

F. D. Morgan

F. D. Morgan
Construction Engineer

MDG:ss

cc: F. B. Klaboe ✓ (w/attachment)
V. D. Wolfe "
C. T. Keasey "
A. L. Chapman "

RECEIVED
DEC 1 1969
OFFICE OF
STATE HIGHWAY ENGINEER

PAGE PAVING COMPANY

GENERAL HIGHWAY CONSTRUCTION . . . . MAILING ADDRESS: P. O. BOX 2206, SALEM, OREGON 97308

EMERSON B. PAGE, PRESIDENT
ARTHUR B. WOODS, VICE-PRESIDENT
JEANNE B. PAGE, SEC.-TREAS.

EQUAL OPPORTUNITY EMPLOYER

TELEPHONE 585-2686

November 19, 1969

KLABOE

Routing
Morgan
Decker
Bond
Walker
Boehme
Johnsen
Pease
Swan
Glenn
Litchfield
Gallagher
Stein

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NOV 21 1969
CONSTRUCTION
DIVISION

9564

The Engineer
Oregon State Highway Department
Salem, Oregon

Gentlemen:

RE: Wilderville-Sauer's Flat
Contract No. 7207

We have just received Estimate 6-Final for the subject project.

It appears that you plan to deduct the sum of $356.80 for "AC-Comp. Penalty Lab Report 8-8-69". We do not have this referred to Laboratory Report. We would like to have you submit us the following information:

1. By what mathematical calculation did you arrive at the $356.80 figure?
2. Why were we not notified until now that such a deduction was being contemplated?
3. Why have we not been given an opportunity to make corrections on this project which has not yet been accepted?
4. If the alleged compaction failure areas were tested now and passed, what in your opinion would be the action concerning the penalty?

We would appreciate your referring to specific specifications in answering any of the above.

Very truly yours,

PAGE PAVING COMPANY

Emerson B. Page
President

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STATE HIGHWAY ENGINEER

EBP:jm

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NOV 26 1969
FOR FILING
12-1118
7207

November 25, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed September 26, 1969, on Contract No. 7207. The contract was with Page Paving Company and was for grading and paving on the Wilderville-Sauers Flat Section of the Redwood Highway in Josephine County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective November 25, 1969, and that you concur in this procedure at the Commission meeting on December 23.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
F. B. Klaboe
V. D. Wolfe
V. E. Skoog
F. D. Morgan
L. H. Young
C. T. Keasey

srb sr

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NOV 26 1969

FOR FILING

17-1118
7207

November 25, 1969

Wells-Reed-Wood-West Co.
412 Failing Building
Portland, Oregon 97204

Gentlemen:

Contract No. 7207 awarded to Page Paving Company for grading and paving on the Wilderville-Sauer's Flat Section of the Redwood Highway in Josephine County was completed on September 26, 1969, and accepted by the Highway Commission on November 25, 1969.

Final payment in the amount of $44,627.38 will be released to the contractor after December 3, 1969. The total contract amount is $422,562.02 including $7,856.88 for work performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By
C. W. Head, Assistant Secretary

cr

cc: Page Paving Company
P. O. Box 2206
Salem, Oregon 97308

Great American Insurance Company
Pacific NW Regional Office
2030 Ninth Avenue
Seattle, Washington 98121

Frank Morgan
Ivan Merchant
V. E. Skoog
  Attn: John Herr
C. T. Keasey

17-1118
7207

FORM E-1 (REV. 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: Wilderville - Sauers Flat
WEEK ENDING: October 18th, 1969
SECTION PREFIX: 17-1118
HIGHWAY: Redwood
COUNTY: Josephine
NAME OF JOB: Wilderville - Sauers Flat
KIND OF WORK: Grading & Paving
CONTRACTOR: Page Paving Company
CONTRACT NUMBER: 7207
FEDERAL AID PROJECT NUMBER: State
DATE OF CONTRACT: 3-26-69
DATE WORK STARTED: 4-8-69
ESTIMATED COMPLETION DATE:
AVERAGE FORCE ON PROJECT FOR THE WEEK:
MEN: SUPERVISION:
SPECIFIED WORK DAYS:
WORK DAYS USED:
SPECIFIED CALENDAR DAYS: 150
CALENDAR DAYS USED: 161
SPECIFIED COMPLETION DATE:
PERCENT OF TIME ELAPSED: 107
PROJECT AUTHORIZATION: $ 498,184.98
EXCLUSIVE OF ENGINEERING: $ 458,681.33
ENGINEERING AUTHORIZATION: $ 39,503.65
PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 100
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 436,920.75
ENGINEERING COST TO DATE: $ 32,340.00
PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 98
ESTIMATED PERCENT: ~~OVERRUN~~ UNDERRUN 5 %
PERCENT OF AUTHORIZATION: 82 %
DATE PROJECT WAS COMPLETED: September 26th, 1969

Semi-Final Estimate Submitted 10-14-69

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD		
100	100	100	100	100	100		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT	4.16	4.16			10.34
MILES PARTIALLY COMPLETED					
MILES COMPLETED	4.16	4.16			10.34
TOTAL ESTIMATED QUANTITIES (CONTRACT)	47,400	17,000			30,900
TOTAL QUANTITIES CORRECTED TO DATE	51,544	16,458			29,712
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE	51,544	16,458			29,712
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY	Fair			
MONDAY	Fair			
TUESDAY	Fair			
WEDNESDAY	Showers			
THURSDAY	"			
FRIDAY	"			
SATURDAY				

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CONSTRUCTION DIVISION

NOTED
R. D. CHURCH

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY	
MONDAY	
TUESDAY	
WEDNESDAY	
THURSDAY	
FRIDAY	
SATURDAY	

REMARKS

Seeding and Mulching and construction of mail box turnouts still to be done by State Forces.

Semi-Final Estimate completed and submitted to the Division Office.

Final Report.

SIGNED ______ LOCATION Grants Pass, Oregon

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

SP*F216

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17-1118
7207

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
July 18, 1969

To: C. T. Keasey
Division III Engineer
ROSEBURG

SUBJECT: Historical Marker
Redwood Highway
North of Selma
Anderson's Station

[illegible]

On June 18 Glen Clark submitted a report recommending construction of a historical marker site at the above location. The estimated cost was $500.

Will you please proceed with the widening at this point and notify this office when it has been completed. The cost of the widening should be charged to the Wilderville-Sauers Flat Project. #7207

ORIGINAL SIGNED BY L. E. GEORGE

L. E. George
Assistant Traffic Engineer

VPJ:ji
cc: Tom Edwards
F. B. Klaboe

NOTED
TOM EDWARDS

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JUL 18 1969
OFFICE OF
STATE HIGHWAY ENGINEER

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MAY 20 1969
FOR FILE

OREGON STATE
HIGHWAY DEPARTMENT

17-1118
171

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

May 16, 1969

Pacific Northwest Bell Telephone Company
421 S.W. Oak Street - Room 437
Portland, Oregon 97204

Re: Telephone Facilities Adjustment
Wilderville-Sauers Flat Section
Redwood Highway
Josephine County

ATTENTION: Mr. James W. DeYoung, Jr.

Gentlemen:

Reference is made to our letter of May 14, 1969 in regard to the adjustment of your facilities on the above subject project.

Mr. John Holcomb, Field Utilities Liaison Engineer, has informed this office that a mutual understanding had been reached with your Company that the temporary relocation of your facilities would be done on a lump sum basis. Paragraph 2 of our May 14 letter is therefore rescinded.

Reimbursement for the work performed on and subsequent to April 4, 1969, in the amount of $1,758 will be made in accordance with Paragraph 7g 3 of PPM 30-4 upon receipt of your statement of charges. A breakdown of the contract labor costs should be included in your final statement, to include the name of the contractor. Please be sure to include the beginning and completion dates of the work in the final statement.

Very truly yours,

F. D. Morgan
Construction Engineer

By:

T. W. Litchfield
Utilities Liaison Engineer

JMC:ss
cc: F. B. Klaboe
L. H. Young
V. E. Skoog
C. T. Keasey
A. L. Chapman
R. L. Lammert
J. E. Holcomb

cc: Mr. D. G. Barker
District Engineer Manager
785 Grant Street
Eugene, Oregon 97402

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MAY 16 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
APR 21 1969

17-1118

7207

April 18, 1969

Page Paving Company
P. O. Box 2206
Salem, Oregon 97308

Gentlemen:

We enclose for your files a fully executed copy of the following described contract which was awarded to you by the State Highway Commission:

> Contract No. 7207 for grading and paving on the Wilderville-Sauer's Flat Section of the Redwood Highway in Josephine County.

A copy of this contract is also being sent to the surety on your performance bond.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr

Enclosure
cc: Great American Insurance Company
Wells-Reed-Wood-West Co.
A. L. Chapman
C. T. Keasey
D. J. Barbee
F. D. Morgan
I. D. Merchant

21-4233 Siletz R. Drawspan, S. of 1969
Lincoln City, Oregon Coast Hwy.
#7208 (Maintenance painting)

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APR 9 - 1970

FOR FILING

21-4235

7208

April 9, 1970

Dooly & Company
Board of Trade Bldg.
Portland, Oregon 97204

Gentlemen:

In your letter of April 8 you comment on the failure of Calvert Services to respond to their obligations in the matter of paint damage to your car.

Calvert Services have failed to complete a contract undertaken with us and the contract has been turned over to the surety.

Their prequalification has not been renewed.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

FQ:sj

Dooly & Co.
OREG. LTD.
INSURANCE
SINCE 1894

R. M. DOOLY
H. S. GRANNATT
R. W. RIMBACH
F. WARREN MUNRO
J. W. BAYLESS
WILLIAM H. LILLY
J. R. THOMAS
T. F. FREWEN
J. H. HEFTY
BRUCE B. KEGG
H. C. HOEVET
R. W. SKALLERUD
W. E. BOWES
HELEN ASHER
J. A. BENNISON
J. D. McINROE
J. C. BURNETT
PAUL C. ASHER
D. G. RIMBACH
THOMAS D. HARNEY
RICHARD B. SHOOK
G. A. PANCHOT
JACK R. TITUS
REX ST. CLAIR
H. A. McLEOD
J. P. STEPHENS
G. SAUSE
W. G. FERBER

Board of Trade Building / Portland, Oregon 97204 / 226-2392 / Cable Address: Dooly

April 8, 1970

Oregon State Highway Department
Highway Building
Salem, Oregon 97310

Attention: Mr. Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

Gentlemen:

Re: Contract No. 7208
Calvert Services, 321 12th, N., Edmonds, Washington

With reference to my letter of September 26, 1969, concerning paint damage to my car when the above contractor was painting a bridge across the Siletz River in June, and your reply on September 29, I have received information from the liability insurance carrier that there is a $250 deductible on property damage coverage so that the responsibility for the $40 paint damage to my car should be paid by the contractor. Three letters to Calvert Services have produced no results, nor even the courtesy of a reply.

I feel that this disregard of obligation to the public should be considered by the Oregon State Highway Department when these contracts are awarded in the future.

Very truly yours,

Jack Burnett

J. C. Burnett

JCB d

cc: Calvert Services

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OCT 21 1969
FOR FILING

21-4233

7211

October 20, 1969

Reliance Insurance Company
620 Oregon Bank Building
Portland, Oregon 97204

Gentlemen:

On October 17, 1969, we wrote to you concerning release of final payment on Contract No. 7208 awarded to Calvert Services, Inc., for maintenance painting of the Siletz River Drawspan on the Oregon Coast Highway in Lincoln County.

Final payment on this contract is $860 and the total contract amount is $18,838.82 including $1,538.82 for work performed under force account.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fkm

cc Calvert Services, Inc.
321 12th North
Edmonds, Washington 98020

Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Herr
R. D. Asburry

RECEIVED
OCT 17 1969

21-4233
7208

October 17, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed July 9, 1969, on Contract No. 7208. The contract was with Calvert Services, Inc., and was for maintenance painting on the Siletz River Drawspan Section of the Oregon Coast Highway in Lincoln County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective October 17, 1969, and that you concur in this procedure at the Commission meeting on November 18.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
F. B. Klaboe
Victor D. Wolfe
V. E. Skoog
Ivan Merchant
L. H. Young
F. D. Morgan
R. D. Asburry

srb sr

RECEIVED
OCT 20 1969
FOR FILE
21-4233
7204

October 17, 1969

Reliance Insurance Company
620 Oregon Bank Building
Portland, Oregon 97204

Gentlemen:

Contract No. 7208 awarded to Calvert Services, Inc., for maintenance painting of the Siletz River Drawspan on the Oregon Coast Highway in Lincoln County was completed on July 9, 1969, and accepted by the Highway Commission on October 17, 1969.

Final payment will be released to the contractor as soon as payment processing can be completed, but not before October 24, 1969.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fhm

cc Calvert Services, Inc.
321 12th North
Edmonds, Washington 98020

Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Herr
R. D. Asburry

RECEIVED
Ui OCT 6 - 1969
FOR FILING

21-4233

7204

September 29, 1969

Dooly & Company Insurance
Board of Trade Building
Portland, Oregon 97204

Attention: Mr. J. C. Burnett

Gentlemen:

This is in reply to your letter of September 26 concerning paint damage to your car while crossing the bridge across the Siletz River on June 27, 1969.

You are correct in that the contractor is responsible for damages that he may cause while he is performing work on a State Highway contract.

We do not know the name of the surety company which provides liability coverage for Calvert Services, but the Reliance Insurance Company whose address is 620 Oregon Bank Building, Portland, Oregon 97204 furnished the performance bond on Contract No. 7208.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

FQ:sj

Dooly & Co.
INSURANCE

Board of Trade Building / Portland, Oregon 97204 / 226-2392 / Cable Address: Dooly

R. M. DOOLY
H. S. GRANNATT
R. W. RIMBACH
F. WARREN MUNRO
J. W. BAYLESS
WILLIAM H. LILLY
J. R. THOMAS
T. F. FREWEN
P. H. MACCASKILL
J. H. HEFTY
BRUCE B. KEGG
H. C. HOEVET
R. W. SKALLERUD
W. E. BOWES
HELEN ASHER
J. A. BENNISON
J. D. MCINROE
J. C. BURNETT
PAUL C. ASHER
D. G. RIMBACH
THOMAS D. HARNEY
RICHARD B. SHOOK
G. A. PANCHOT
JACK R. TITUS
REX ST. CLAIR
H. A. McLEOD
J. P. STEPHENS
G. SAUSE
W. G. FERBER

September 26, 1969

Oregon State Highway Department
Salem, Oregon

Gentlemen:

Re: Paint damage to my 1969 Pontiac
Calvert Services, 321 12th, N., Edmonds, Washington

On June 27, 1969, when the above contractor was painting the bridge across the Siletz River, I was driving to Salishan and after I had crossed the bridge I noticed paint on the windshield of my car. I asked the flagman about this, and he said to go to the end of the bridge where someone would clean it off, which I did, but after I had arrived at Salishan, I noticed the paint again. There was no one at the bridge on June 28, so when I came back to Portland, I had the car cleaned at a cost of $40.00.

I have written this company three times about this matter, and have had no reply to any of my letters. It is my understanding that contractors are to be responsible for such damage when they are painting for the State Highway Department. Please let me know about this as soon as possible.

Very truly yours,

Jack Burnett

J. C. Burnett

JCB d

cc: Calvert Services
321 12th, N.
Edmonds, Washington

RECEIVED
SEP 29 1969
OREGON
STATE HIGHWAY COMMISSION

FORM [illegible]
COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
KENNETH N. FRIDLEY, MEMBER
WASCO
DAVID B. [illegible], MEMBER
PORTLAND

RECEIVED
SEP 11 1969

21-4535
7208

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

Newport 97365
September 10, 1969

Mr. Robert J. Fiebiger
6833 N. Haight St.
Portland, Oregon 97217

Contract #7208

Dear Mr. Fiebiger,

Your letter of September 1 with two attachments has been received by this office.

Calvert Services, Inc. is a Washington corporation headed by Mr. Mark Calvert, and Mr. Martin Sheeley was Superintendent on the project. In addition, the name of one Reliance Insurance Co. appears on some correspondence in connection with the contract. This company is apparently the contractor's bonding company, and may or may not be also their insurer.

By copy of this letter I am forwarding copies of your letters to the Secretary to the State Highway Commission in Salem for recording.

Respectfully,

H. H. Patterson

H. H. Patterson
Resident Engineer

cc: Sec'y. to State Highway Comm.
Calvert Services, Inc. - Please advise the Commission when
Mr. G. W. Wimer this matter has been settled.

NOTED
FLOYD QUERY

RECEIVED
SEP 11 1969
[illegible]
STATE HIGHWAY COMMISSION

Cw NOTED
C. W. HEAD

Portland, Oregon
June 30, 1969

Calvert Services Inc.
321 12th North
Edmonds, Washington

Gentlemen:

On Sunday afternoon, June 29, 1969, my wife, my daughter, and I were in our boat going upstream on the Siletz River. At about 2:30 P.M. we had just passed under the bridge on U.S. Highway 101 which crosses the Siletz River at Kernville, Oregon; when the boat was splattered completely from bow to stern by spilled green paint. My wife and daughter were also splattered.

We immediately trailered the boat and took it up to the foreman on the job, Mr. Dale Bodenan. He supplied my wife and daughter with cream to clean their faces and hands. Mr. Bodenan, an unidentified man he recruited, and myself spent two hours cleaning the boat and equipment with rags and thinner that Mr. Bodenan supplied. Mr. Bodenan extended apologies and all possible courtesies to us.

Mr Bodnean explained that a handle on a paint bucket had broken and allowed an undetermined amount of paint to spill.

I am herewith submitting a statement on the following clothing and items that will have to be replaced:

2 women's sweatshirts @ 4.95 ea	9.90
2 women's capri pants @ 4.99 ea	9.98
1 storm jacket	25.00
1 ladies purse	10.00
total	54.88

Mr. Bodenan assured us that the accident was uncalled for and that his company would replace these items.

The boat was cleaned to our satisfaction, and although there is still paint on some items, we can learn to live with it.

Respectfully

Robert J. Fiebiger
6833 N. Haight Ave,
Portland, Oregon 97217

RECEIVED
SEP 4 - 1969
OFFICE OF
RESIDENT ENGINEER
NEWPORT, OREGON

E
UG 19 1969
R FI

1859

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

7208

August 15, 1969

Oregon State Highway Commission

Re: Requested rescission of
Contract #7203
Painting Coos Bay
(McCullogh) Bridge
Calvert Services, Inc.

Gentlemen:

On March 20, 1969, Calvert Services, Inc., was the successful bidder on two painting contracts, one for the painting of the Siletz River Bridge and the other for the painting of the Coos Bay Bridge, both on Highway 101.

Thereafter the Commission, on March 26, 1969, awarded both jobs to Calvert Services, Inc., and on April 2, 1969, forwarded to it the formal contract documents, both of which were then executed and returned to the Department on April 9, 1969.

7208

Calvert Services elected to first paint the Siletz River span. The bid to do this job was $17,200. In late June of 1969, upon discovering the cost of painting the Siletz Bridge was going to exceed its bid by approximately $23,000, Calvert took another look at its bid to paint the Coos Bay Bridge, which was in the amount of $68,100.

The engineer's estimate to paint the Coos Bay Bridge was $110,000. There were 6 bids submitted, ranging from a low of $68,100 to a high of $406,000. The bid of the second low bidder was $86,240.

On July 2, 1969, some three months after the award and execution of the contract to paint the Coos Bay Bridge, the contractor, by letter, informed the Highway Department an error was committed in formulating the bid by the omission therefrom of a $45,000 item for steam cleaning.

Later, on July 7, 1969, the contractor's attorney, Mr. Donald McL. Davidson of the Seattle law firm of Ferguson and Burdell, requested that his client either (1) be relieved of the performance of the contract to paint the Coos Bay Bridge because of the inadvertent error made in com-

NOTED
FORREST COOPER

puting his bid, or (2) at the option of the Commission, Calvert would enter into a supplemental agreement to perform the work which would include the bare cost of the omitted work, without overhead or profit--that is, raise the bid price $37,547.20, to a total contract amount of $105,647.20. Calvert also agreed to indemnify and hold the State harmless from lawsuits brought by any other bidders.

On July 18 Mr. Davidson was informed by letter, after discussing the matter by telephone with Mr. Jackson, that relief in either alternative could not be granted. Thereafter by letter of July 22 Calvert gave notification of its rescission of Contract No. 7203 for painting the McCollough Bridge in Coos County.

It is a general rule of law that one who errs in the preparation of a bid for public works is entitled to the equitable relief of rescission if it can be established by clear and convincing evidence that:

1. The mistake is material.
2. To enforce the contract would be unconscionable.
3. The mistake did not result from the violation of a legal duty or from culpable negligence.
4. The party to whom the bid was submitted will not be seriously prejudiced, except for the loss of his bargain.
5. Prompt notice of the mistake is given.

It is felt that Calvert Services, Inc. does not come within the requirements listed above. Here the contract was awarded and voluntarily executed by the parties thereto. Some three months elapsed before the error was discovered, if in fact it was an inadvertent error, and notice given to the State.

Copies of the contractor's worksheets, used in formulating his bid, are sketchy at the most. Their skimpiness in detailing the items to be considered certainly lead one to believe the contractor was guilty of culpable negligence in formulating his bid. They indicate extreme carelessness in that the estimator apparently did not even consider the item of steam cleaning, which was called for in the special provisions.

In speaking of culpable negligence, the courts have held that this generally means carelessness, or lack of good faith, in estimating the amounts of work to be done and the unit prices for the work. When this carelessness amounts to gross negligence, relief is generally refused.

The courts consistently make a distinction between what amounts to an error in judgment and a simple clerical or mechanical error, such as neglecting to carry an item from the worksheets to the formal bid proposal forms.

When one is denied relief from an error of judgment, the agreement is enforced because it is actually the one the contractor intended to make, whereas, if he is denied relief from a clerical or mechanical error, he is forced to perform an agreement he had no intention of making.

Since the items of labor and equipment delineated on his bid worksheets could well be said to cover all items of labor and equipment, including steamcleaning, it would appear, or we can assume at least, the contractor made an error in judgment, for which relief is generally denied.

Additionally, because of the delay in notifying the State of the error, the State not only loses its bargain, but loses an entire painting season, since it is now too late to re-advertise for bids, award a new contract and have the bridge painted before the winter season sets in.

It should be pointed out, however, that the Oregon Supreme Court has held relief should be granted in those instances where the agency knew or should have known the bidder made a mistake. The language used by the court is as follows:

> "But if the offeree knew of the mistake, and if it was basic, or if the circumstances were such that he, as a reasonable man, should have inferred that a basic mistake was made, a meeting of the minds does not occur.*********
> (In such case) the offeree will not be permitted to snap up an offer that is too good to be true*********."

As pointed out previously, the engineer's estimate to perform the work was $110,000. The bids received were:

$68,100.00
86,240.00
162,858.00
171,300.00
372,978.00
406,812.00

If this information in itself should have alerted the Department an error had been made, I then read into the language of the Oregon Supreme Court that it was our duty to have informed the bidder that we felt he may have made an error in formulating his bid. We did not do this.

However, in all cases reviewed where relief was granted, notice of the error was brought to the agency's attention before a contract was awarded and the agency could award to the next low bidder. In this case, this is not possible since so much time has elapsed, making readvertising necessary, should the contractor refuse to perform his contract. Because of this delay, as well as being negligent in the formulation of the bid, I feel the State has been prejudiced and relief should be denied. I further recommend that performance of the contract be tendered to Reliance Insurance Company, surety on such contract.

Very truly yours,

G. E. ROHDE
Chief Counsel

LIL:gw;hg

cc - Mr. Forrest Cooper
Mr. R. L. Porter
Mr. Floyd Query

RECEIVED
AUG 18 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
JUL 15 1969
FOR FILING

21-4233

7218

July 15, 1969

State Farm Mutual Automobile Ins. Co.
Portland Central Service Center
10014 N. E. Glisan
Portland, Oregon 97220

Attention: Mr. S. T. Michener
Claims Representative

Gentlemen:

This pertains to your letter of July 14 concerning your Claim No. 37 292 292 in behalf of Richard Chambers for paint spray damage suffered by Mr. Chamber's car June 29, 1969, on the Siletz River Bridge on Highway 101.

Calvert Services, Inc., 321 12th North, Edmonds, Washington 98020, hold our Contract No. 7208 for painting this bridge. Our records show that this contract was completed July 9, 1969. We suggest that you get in touch with the contractor as he is responsible under the contract for any damages incurred in connection with the contract.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

FQ:sj

STATE FARM
INSURANCE

State Farm Mutual Automobile Insurance Company

Home Office: Bloomington, Illinois 61701

**Portland Central
Service Center
10014 N.E. Glisan
Portland, Oregon
97220**

July 14, 1969

State of Oregon
Department of Highways
Salem, Oregon 97310

Claim No.: 37 292 292
Name of Insured: CHAMBERS, RICHARD
Date of Accident: 6-29-69
Amount of Loss: $32.50

Gentlemen:

We are writing to you with reference to the damage to an automobile owned by the above named on the date indicated. As a result of the accident it was necessary to repair the damage to the car and the repairs have been completed for the above amount.

The information in our file and the facts that have been reported to us indicate that you are responsible for this accident. If you have insurance, please refer this letter to your insurance company for discharge of your obligation, and inform us as to your insurer's name, its address, and your policy number. If you do not have insurance, please forward your remittance for the above amount to satisfy this account.

Please use the enclosed self-addressed envelope when replying so that your payment will receive prompt acknowledgment.

Very truly yours,

S T Michener

S. T. Michener,
Claims Representative

cc: 1448

P. S. This concerns paint overspray from the painting of the bridge at the Siletz River on Highway 101 on the above date.

RECEIVED
JUL 15 1969
OREGON
STATE HIGHWAY COMMISSION

STATE FARM MUTUAL AUTO INSURANCE COMPANY - SUBROGATION DEPARTMENT

Gentlemen:

My Insurance Company is ______________________ Policy No: ________________
(if not insured, write "none")

My Agent or Adjuster is ____

His address is ____
Street City State

If not insured, indicate on reverse side how payment will be made.

Signed ____________________

Our Insured CHAMBERS, RICHARD Accident Date 6-29-69 Claim No: 37 292 292

21-4233
7208

FORM E-1 (REV. 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: Siletz River Drawspan

WEEK ENDING: 12 July 1969

SECTION PREFIX: 21-4233

HIGHWAY: Oregon Coast

COUNTY: Lincoln

NAME OF JOB: Kernville Bridge

KIND OF WORK: Maintenance Painting

CONTRACTOR: Calvert Services Inc.

CONTRACT NUMBER: 7208

FEDERAL AID PROJECT NUMBER: State

DATE OF CONTRACT: 26 Mar 1969

DATE WORK STARTED: 4 Apr 1969

ESTIMATED COMPLETION DATE: 9 July 1969

AVERAGE FORCE ON PROJECT FOR THE WEEK:

MEN: 6 SUPERVISION: 1

SPECIFIED WORK DAYS:

WORK DAYS USED:

SPECIFIED CALENDAR DAYS: 180

CALENDAR DAYS USED: 87

SPECIFIED COMPLETION DATE:

PERCENT OF TIME ELAPSED: 48%

PROJECT AUTHORIZATION: $ 21,125.25

EXCLUSIVE OF ENGINEERING: $ 19,280.25

ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 18,565.05

ESTIMATED PERCENT: ~~OVERRUN~~ UNDERRUN 4 %

ENGINEERING AUTHORIZATION: $ 1,845.00

ENGINEERING COST TO DATE: $ 4,572.00

PERCENT OF AUTHORIZATION: 247 %

PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 100%

PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 100%

DATE PROJECT WAS COMPLETED: 9 July 1969

Semi-final will be submitted about 15 July 1969

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD.	CLEAN	PAINT
						100%	100%

	~~GRADING~~	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)	lump sum				
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE					
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY	1				
HOURS PER SHIFT	10				

EQUIPMENT USED DURING THE WEEK:

2 trucks

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY	Cloudy	1		
MONDAY	Fair	1		
TUESDAY	Overcast	1		
WEDNESDAY	Overcast	1		PROJECT COMPLETED
THURSDAY				
FRIDAY				
SATURDAY				

RECEIVED
1 1969
CONSTRUCTION DIVISION

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

6 July SUNDAY	No activity
MONDAY 7	#317-64 2nd green above deck in brackets # 6 thru 11 on chords, cross bracing, & stiffeners; also guardrail on East side of brackets # 4 thru 11. Removed cable from top of truss. #317-64 2nd green above deck in West brackets # 1 thru 4 on upper 1 third of chords, stiffeners, & cross bracing.
TUESDAY 8	#317-64 2nd green above deck in bottom 2 thirds of brackets # 1 thru 11 on guardrail, chord, cross bracing, & stiffeners. #317-64 2nd green below deck in bay #6 inside turntable.
WEDNESDAY	#317-64 2nd green touch-up overall on truss above deck. Painted handrail parallel to steel on East & West sides. Replaced "No Parking" signs at North end of bridge. Removed traffic control & project signs. Loaded all equipment into trucks & cleaned surrounding area. PROJECT COMPLETED THIS DATE
THURSDAY	
FRIDAY	
SATURDAY	

REMARKS

9 July 1969 Mr. Wimer, Mr. Everton, Mr. Patterson, & Mr. Schott Made final inspection & found bridge painting complete.

SIGNED H. H. Patterson LOCATION Newport

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

SP-F216

RECEIVED
JUN 11 1969
FOR FILE

21-4233

7218

June 10, 1969

7564

Mr. H. G. Hitchcock
Route 1, Box 406
Otis, Oregon 97368

Dear Mr. Hitchcock:

I have your letter of June 2. The responsibility for any paint damage to vehicles such as occurred to your car lies with the painting contractor, Calvert Services, Inc., 321 - 12th N., Edmonds, Washington, 98020. Their telephone number is 206-776-3311.

Since your address indicates that you live in the area, and if it is convenient for you, you may achieve speedier results in your possible claim by contacting the superintendent of the work at the Kernville Bridge.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

Tom Edwards
Assistant State Highway Engineer

bc Forrest Cooper
R. L. Porter
Victor D. Wolfe
E. S. Hunter
R. D. Asburry (enc.)
H. H. Patterson (enc.)

JWS:ib/TE:ja

8931

Route 1 - Box 406
Otis, Oregon 97368
June 2, 1969

REFERRED TO
[illegible]
BY SECRETARY

Oregon State Highway Dept.
Salem, Oregon 97310

Gentlemen:

In recently crossing the Kernville bridge which is being painted, we picked up several splatters of orange paint on our Eldorado Cadillac. Needless to say, we are very unhappy about this as the car is practically new.

With whom does the responsibility lie? We would appreciate hearing from you at your earliest.

Sincerely,

H. G. Hitchcock
H. G. HITCHCOCK

[illegible]

RECEIVED
JUN 4 1969
OFFICE OF
STATE HIGHWAY ENGINEER

MAINTENANCE ENGINEER
RECEIVED
JUN 5 1969

☐	☐	☐	☐	☐
ME	AME	AME	OE	AG
☐	☐	☐	☐	☐
BS	ABS	AA	FILE	TA

RECEIVED
JUN 4 - 1969
OREGON
STATE HIGHWAY COMMISSION

RECEIVED
APR 15 1969

FOR FILING

31-4233

7208

April 14, 1969

Calvert Services, Inc.
321 - 12th North
Edmonds, Washington 98020

Gentlemen:

We enclose for your files a fully executed copy of the following described contract which was awarded to you by the State Highway Commission:

> Contract No. 7208 for maintenance painting of the Siletz River Drawspan on the Oregon Coast Highway in Lincoln County.

A copy of this contract is also being sent to the surety on your performance bond.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr

Enclosure

cc: Reliance Insurance Company
D. J. Barbee
F. D. Morgan
I. D. Merchant
H. H. Patterson
R. D. Asburry

26-1182 Burlington-Portland Section, of 1909
Columbia R. Hwy., near W. city
#7209 limits of Ptld. (Slide correction)

RECEIVED
OCT 14 1969

26-1182
7209

October 14, 1969

General Insurance Company
of America
Portland Service Office
520 S. W. 6th Avenue
Portland, Oregon 97204

Gentlemen:

Contract No. 7209 awarded to Elickle Company for slide correction on the Burlington-Portland Section of the Columbia River Highway in Multnomah County was completed on July 17, 1969, and accepted by the Highway Commission on October 13, 1969.

Final payment in the amount of $914.30 will be released to the contractor after October 21, 1969. The total contract amount is $18,144.80 including $445.24 for work performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fkn

cc Elickle Company
2900 N. E. Stafford Street
Portland, Oregon 97211

L. W. Rulien
Frank Morgan
V. E. Skoog
Attn: John Herr

RECEIVED
OCT 14 1969
FOR FILING

26-1182
7209

October 13, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed July 17, 1969, on Contract No. 7209. The contract was with Blickle Company and was for slide correction on the Burlington-Portland Section of the Columbia River Highway in Multnomah County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective October 13, 1969, and that you concur in this procedure at the Commission meeting on November 18.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
F. B. Klaboe
Victor D. Wolfe
F. D. Morgan
V. E. Skoog
L. H. Young
L. W. Rulien

srb sr

26-1182
7209

FORM E-1 (REV 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: Burlington-Portland
WEEK ENDING: August 23, 1969
SECTION PREFIX: 26-1182
HIGHWAY: Columbia River
COUNTY: Multnomah
NAME OF JOB: Burlington-Portland Section
KIND OF WORK: Slide Correction
CONTRACTOR: Blickle Co.
CONTRACT NUMBER: 7209
FEDERAL AID PROJECT NUMBER: State
DATE OF CONTRACT: March 26, 1969
DATE WORK STARTED: May 8, 1969
ESTIMATED COMPLETION DATE:
AVERAGE FORCE ON PROJECT FOR THE WEEK: MEN: SUPERVISION:
SPECIFIED ~~CALENDAR~~ work DAYS: 90
~~CALENDAR~~ work DAYS USED: 94
SPECIFIED COMPLETION DATE:
PERCENT OF TIME ELAPSED: 104%
PROJECT AUTHORIZATION: $ 20,479.47
EXCLUSIVE OF ENGINEERING: $ 18,690.87
ENGINEERING AUTHORIZATION: $ 1,788.60
PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 100%
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 18,482.13
ENGINEERING COST TO DATE: $ 3,965.29
PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 100%
ESTIMATED PERCENT UNDERRUN: 1.1 %
PERCENT OF AUTHORIZATION: 222 %
DATE PROJECT WAS COMPLETED: July 17, 1969

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD	guardrail	pav.
100%	100%	100%	100%			100%	100%

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT	0.05	0.05			0.05
MILES PARTIALLY COMPLETED	0.05	0.05			0.05
MILES COMPLETED	0.05	0.05			0.05
TOTAL ESTIMATED QUANTITIES (CONTRACT)	2,750 cy	250 T			90 T
TOTAL QUANTITIES CORRECTED TO DATE	3,244 cy	270 T			100 T
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE	3,244 cy	270 T			100 T
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	calendar WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY	Fair			
MONDAY	"			
TUESDAY	"			
WEDNESDAY	"			
THURSDAY	"			
FRIDAY	"			
SATURDAY				

Routing
Morgan M
Decker
Bond B
Walker
Loenine W
Johnsen

RECEIVED
CONSTRUCTION DIVISION

NOTED

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY	
MONDAY	
TUESDAY	
WEDNESDAY	
THURSDAY	
FRIDAY	
SATURDAY	

REMARKS

Project Completed.

Semifinal submitted to Division Office August 18, 1969.

SIGNED Roy W. Pyle LOCATION Portland, Oregon

Roy W. Pyle

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

SP-F216

RECEIVED
APR 17 1969
FOR [illegible]

26-1182

7209

April 16, 1969

Mickle Co.
2900 N.E. Stafford St.
Portland, Oregon 97211

Gentlemen:

We enclose for your files a fully executed copy of the following described contract which was awarded to you by the State Highway Commission:

> **Contract No. 7209 for slide correction on the Burlington-Portland Section of the Columbia River Highway in Multnomah County.**

A copy of this contract is also being sent to the surety on your performance bond.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Enclosure
cc: General Insurance Company of America
J.B.L. & K. Corporation
Roy Pyle
L. W. Rulien
D. J. Barbee
F. D. Morgan
I. D. Merchant

127-1120 Walnut Ave.-Washington St. 1969
(Dallas) Sec., Kings Valley Hwy.
#7210 (Grad., pav. & structure)

C4A 3.2/3

DEC 4 1969

127-1120

[illegible]

December 4, 1969

Federal Insurance Company
Bonding Department
417 Norton Building
Seattle, Washington 98104

Gentlemen:

Contract No. 7210 awarded to Salem Road and Driveway Company for grading, paving, and structure on the Walnut Avenue-Washington Street Section in Dallas on the Kings Valley Highway in Polk County was completed on September 25, 1969, and accepted by the Highway Commission on December 3, 1969.

Final payment in the amount of $13,417.53 will be released to the contractor after December 11, 1969. The total contract amount is $266,058.74 including $809.70 for work performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fkm

cc
Salem Road and Driveway Company
P. O. Box 603
Salem, Oregon 97308

Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Herr
R. D. Asburry

DEC 3 - 1969
FOR FILING
127-1120
1211

December 3, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed September 25, 1969, on Contract No. 7210. The contract was with Salem Road and Driveway Company and was for grading, paving and a structure on the Walnut Avenue-Washington Street (Dallas) Section of the Kings Valley Highway in Polk County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective December 3, 1969, and that you concur in this procedure at the Commission meeting on December 23.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
F. B. Klaboe
Tom Edwards
V. D. Wolfe
V. E. Skoog
Ivan Merchant
F. D. Morgan
L. H. Young
R. D. Asburry
srb sr

127-1120
7210

FORM E-1 (REV 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: WALNUT AVENUE - WASHINGTON ST. (DALLAS)

WEEK ENDING: October 31, 1969

SECTION PREFIX: 127-1120

HIGHWAY: Kings Valley

COUNTY: Polk

NAME OF JOB: Walnut Ave. - Washington St.

KIND OF WORK: Grading, paving, and structure.

CONTRACTOR: Salem Road & Driveway Company

CONTRACT NUMBER: 7210

FEDERAL AID PROJECT NUMBER: State

DATE OF CONTRACT: April 7, 1969

DATE WORK STARTED: April 14, 1969

ESTIMATED COMPLETION DATE:

AVERAGE FORCE ON PROJECT FOR THE WEEK

MEN:

SUPERVISION

SPECIFIED WORK DAYS

WORK DAYS USED

SPECIFIED CALENDAR DAYS 160

CALENDAR DAYS USED 160

SPECIFIED COMPLETION DATE

PERCENT OF TIME ELAPSED 100

PROJECT AUTHORIZATION: $ 301,710.24

PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST 100

EXCLUSIVE OF ENGINEERING: $ 277,786.08

ENGINEERING AUTHORIZATION $ 23,924.16

PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION 100

ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING $ 269,531

ENGINEERING COST TO DATE $ 24,747

DATE PROJECT WAS COMPLETED: September 25, 1969

ESTIMATED PERCENT: ~~OVERRUN~~ UNDERRUN 2 %

PERCENT OF AUTHORIZATION 103 %

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE	MAT'L PROD		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)	5,700 CY	4,800		2,940 T	2,610 T
TOTAL QUANTITIES CORRECTED TO DATE	5,540	5,755 CY		2,580	3,230
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE	5,540	5,755		2,580	3,230
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.	9848						
PERCENT	100						

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY				
MONDAY				
TUESDAY				
WEDNESDAY				
THURSDAY				
FRIDAY				
SATURDAY				

Routing
Morgan M
Decker
Bond
Walker
Boehme
Johnsen
Pease
Swan
Glonn
Litchfield
Gallagher
Stein

RECEIVED
NOV 3 1969
CONSTRUCTION DIVISION
BEN GIFFORD

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY	
MONDAY	
TUESDAY	
WEDNESDAY	
THURSDAY	
FRIDAY	
SATURDAY	

REMARKS

Semi-final estimate ~~to be~~ was turned in to Division Office October 30, 1969

- FINAL REPORT -

SIGNED E.J. Hall LOCATION Salem

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

SP*F216

RECEIVED
SEP 15 1969
FOR FILING

127-1120

7710

Dallas
11-22-66 Couplet Agre
via Main + Jeff. Sts.

Office of the City Manager

September 10, 1969

RECEIVED
DIVISION ENGINEER - Division No. 2
SEP 11 1969
ROUTING
ASBURRY ☑ WIMER ☐ BOYD ☐
CANFIELD ☑ ☐ ☐

Mr. Ray Asbury, Division Engineer
State Highway Commission
Salem, Oregon

Dear Mr. Asbury:

Attached please find a corrected copy of Resolution No. 1601 relating to the movement of vehicular traffic on Main and Jefferson Streets in the City of Dallas, Oregon.

Please excuse the errors in the first copy of the resolution submitted to you. I hope this one meets your requirements.

Yours very truly,

Howard D. Brandvold

Howard D. Brandvold
City Manager

HDB:lem
Attach.

cc: Traffic ✓ 9-11-69 cg
County & City ✓
Maintenance
F. T. Lacey
Ed Hall

Floyd Query - please file with appropriate agreement
Thanks
Dn. H.

NOTED
FLOYD QUERY

RECEIVED
SEP 11 1969
ENGINEER
COUNTY & CITY DIVISION

NOTED
DON HARWELL

RECEIVED
SEP 11 1969
ENGINEER
COUNTY & CITY DIVISION

RESOLUTION NO. 1601

A Resolution relating to the movement of vehicular traffic on parts of certain streets in the City of Dallas.

WHEREAS, by Resolution No. 1430 adopted by the City Council of the City of Dallas on August 15, 1966, and approved by the Mayor on the same date, the City of Dallas committed itself to join with the State of Oregon, acting by and through its State Highway Commission, in initiating a one-way street plan on Main Street and Jefferson Street from Rickreall Creek to Washington Street; and

WHEREAS, by Resolution No. 1542 adopted by the City Council of the City of Dallas on July 29, 1968, and approved by the Mayor on the same date, the Mayor and City Manager were authorized to execute on behalf of the City of Dallas a letter agreement relating to the sharing of the costs of street, curb, sidewalk and bridge construction to be incurred in putting said one-way street plan into operation; and

WHEREAS, the construction referred to above is in progress and will be completed on or about November 1, 1969; and

WHEREAS, it is necessary to prescribe traffic patterns in the area of the one-way street plan and to regulate the flow thereof in anticipation of the time said plan is placed in effect: NOW; THEREFORE,

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF DALLAS:

Section 1. All motor vehicular traffic on Main Street from the South line of Walnut Street to the North line of Washington Street shall proceed in a Southerly direction only.

Section 2. All motor vehicular traffic on Jefferson from the North line of Washington Street to the South line of Walnut Street shall proceed in a Northerly direction only.

Section 3. All motor vehicular traffic approaching Main

Street within the area described in Section 1 from the West shall stop immediately prior to reaching the West line of Main Street and proceed only across Main Street or in a Southerly direction on said Main Street.

Section 4. All motor vehicular traffic approaching Main Street within the area described in Section 1 from the East shall stop immediately prior to reaching the East line of Main Street and proceed only across Main Street or in a Southerly direction on said Main Street.

Section 5. All motor vehicular traffic approaching Jefferson Street within the area described in Section 2 from the West shall stop immediately prior to reaching the West line of Jefferson Street and proceed only across Jefferson Street or in a Northerly direction on said Jefferson Street.

Section 6. All motor vehicular traffic approaching Jefferson Street within the area described in Section 2 from the East shall stop immediately prior to reaching the East line of Jefferson Street and proceed only across Jefferson Street or in a Northerly direction on said Jefferson Street.

Section 7. All motor vehicular traffic proceeding in a Westerly direction on Washington Street East of the East line of Jefferson Street shall stop immediately prior to reaching the East line of Jefferson Street.

Section 8. The Director of Public Works, with the cooperation of the Oregon State Highway Department, is hereby directed to place suitable signs and directional markings within the area hereinabove referred to and in areas adjacent thereto in which motor vehicle operators will be affected by the traffic patterns and regulations hereinabove established.

Section 9. All resolutions heretofore adopted which are in conflict with any of the provisions of this resolution are hereby repealed.

Section 10. The provisions of this resolution shall become effective on the date the construction work hereinabove referred to has been completed.

Adopted September 2, , 1969.

Approved September 2, , 1969.

Mayor

ATTEST:

City Manager

RECEIVED
SEP 11 1969
FOR FILING

7210

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

September 10, 1969

City of Dallas
City Hall
Dallas, Oregon 97338

Attention: Mr. Howard D. Brandvold
City Manager

Dear Sir:

This is to acknowledge receipt of your check No. 013399 in the amount of $20,075 as payment of City's final quarterly deposit on its share of costs on the Walnut Street-Washington Street (Couplet) Section of the Kings Valley Highway in Dallas.

Adjustments will be made upon final itemized statement of actual total cost.

Please keep me informed of your planned opening as I will be most pleased to attend, time permitting.

Very truly yours,

Forrest Cooper
State Highway Engineer

By D. N. Harwell mm

D. N. Harwell
Assistant County-City Engineer

DNH:mm

bc: F. B. Klaboe
F. D. Morgan
R. D. Asburry
V. E. Skoog, attention John Herr: Check #013399 delivered to ____________________ on Sept. 8, 1969

RECEIVED
SEP 10 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
MAY 19 1969
FOR FILING

127-1120
7210

C

Bid 3-20-69

April 8, 1969

Salem Road & Driveway Co.
P. O. Box 603
Salem, Oregon 97308

Gentlemen:

The State Highway Commission on March 26, 1969, accepted your proposal for grading, paving, and structure on the Walnut Avenue-Washington Street Section in the City of Dallas on the Kings Valley Highway in Polk County for the sum of $260,524 and referred it to the State Highway Engineer with authority to award the contract as soon as certain conditions have been satisfied.

Those conditions were fulfilled and the State Highway Engineer on April 7, 1969, awarded you the project, which has been assigned Contract No. 7210.

Enclosed are three copies of this contract. Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The calendar workday count on this contract will begin April 19, 1969.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Enclosures

bc: Pacific Builder & Engr., Inc., Seattle, Wash.
Daily Journal of Commerce, Seattle, Wn., & Portland, Ore.
E. J. Hall
R. D. Asburry
Frank Morgan
D. J. Barbee
I. D. Merchant
C. D. Matthis (SIAC)

RECEIVED
APR 2 - 1969

FOR FILING

[illegible]

ORECON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
March 31, 1969

MISC. CONTRACTS and
AGREEMENTS No. 3213

SUBJECT: Advance Deposit
Construction-Finance Agreement
Walnut Street-Washington Street
(Couplet) Section
Kings Valley Highway
City of Dallas

To: Mr. C. H. Maison
Controller
BUILDING

Attention: Mr. John Herr

Pursuant to an agreement of November 22, 1966, and supplements thereto, between City and State, herewith is City's advance deposit of $20,075.00 (Warrant #012789).

This is an initial advance payment on City's agreed share of approximately $80,300.00. City is to pay the balance in installments in accordance with the letters attached hereto, signed by the City on March 28, 1969.

Mr. Klaboe has suggested that this matter may require Highway Commission action; however, after discussion with Mr. Floyd Query, it appears this may not be necessary as the balance of City's payments is within a limited time based on the contract completion date. This is a matter for Administration to determine.

Based on the receipt of City's advance deposit, it appears the initial project will be started immediately, weather permitting.

D. N. Harwell
D. N. Harwell, Assistant Engineer
County and City Division

DNH:mm
Att.

cc: Floyd Query
R. L. Porter
F. B. Klaboe
L. H. Young
R. D. Asburry

Cu

NOTED
C. W. HEAD

NOTED
FLOYD QUERY

CITY OF DALLAS
P. O. Box 67
DALLAS, OREGON 97338
Phone 623-2338

Office of the City Manager

March 28, 1969

Mr. H. S. Cox
County and City Engineer
Oregon State Highway Department
Salem, Oregon

Dear Mr. Cox:

Attached is a copy of your letter dated March 26, 1969 approved by the Mayor and City Manager of the City of Dallas, Oregon and a check in the amount of $20,075.00 as the initial advance deposit due from the city for its one-fourth share of the Walnut Street-Washington Street section of the Kings Valley Highway in Dallas. The terms of the payment were approved by the city council at a special meeting on March 28, 1969.

Thank you very much for your efforts to allow us to make quarterly payments on this project.

Yours very truly,

Howard D. Brandvold

Howard D. Brandvold
City Manager

HDB:m
Attach.

RECEIVED
MAR 31 1969
ENGINEER
COUNTY & CITY DIVISION

FORM E-123

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
FRED W. HILL, MEMBER
PENDLETON
THADDEUS B. BRUNO, MEMBER
PORTLAND

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

March 26, 1969

RECEIVED
MAR 3 1 1969
ENGINEER
COUNTY & CITY DIVISION

Mr. Howard D. Brandvold
Dallas City Manager
P. O. Box 67
Dallas, Oregon 97338

Dear Mr. Brandvold:

Reference is made to your letter of March 24, 1969 regarding the Walnut Street-Washington Street (Couplet) Section of the Kings Valley Highway in Dallas. You state that the City is desirous of extended payments on its agreed share of 25% ($80,300) of the project.

Please be advised that, with the Dallas City Council's concurrence, the State is willing to extend the time of payments on a quarterly basis, based on the contract-completion date of 160 calendar workdays.

If the foregoing is agreeable, based on the following schedule, please indicate your approval in the space provided below, and we will so proceed.

1. $20,075 initial advance deposit - due from City April 1, 1969
2. 20,075 additional quarterly deposit- " " " June 5, 1969
3. 20,075 " " " - " " " July 5, 1969
4. 20,075 " " " - " " " September 5, 1969,

or, upon notification by State, this last payment being subject to adjustment per terms of the agreement between the City and State dated November 22, 1966, or any supplements thereto.

APPROVED
CITY OF DALLAS
BY MAYOR R I Van Den Bosch
R. I. Van Den Bosch
BY RECORDER Howard D Brandvold
Howard D. Brandvold
DATE March 28, 1969

Very truly yours,

Forrest Cooper
State Highway Engineer

By H.S. Cox
H. S. Cox
County and City Engineer

DNH:mm

cc: Floyd Query
R. L. Porter
F. B. Klaboe
L. H. Young
F. D. Morgan
C. H. Maison
D. H. Moehring
R. D. Asburry

RECEIVED
APR 1 - 1969
FOR FILING

COMMISSION
GLENN L. JACKSON, CHAIRMAN
MEDFORD
DAVID B. SIMPSON, MEMBER
PORTLAND
FRED W. HILL, MEMBER
PENDLETON

7210

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

March 21, 1969

Mr. Howard D. Brandvold
City Manager
P. O. Box 67
Dallas, Oregon 97338

Dear Mr. Brandvold:

On March 20, 1969, the State Highway Commission opened bids on the Walnut Street-Washington Street Section project on the Kings Valley Highway No. 191 (ORE 223) in Dallas. The only bid submitted was by the Salem Road and Driveway Company of Salem, and the anticipated cost of the project based upon this bid is as follows:

Contractor's bid			$260,524.00
Anticipated additional items:	Flagging	$ 800.00	
	Signing	3,500.00	
	Adjust utilities	1,000.00	5,300.00
		Total	$265,824.00
Engineering and contingencies (13-1/2%)			35,886.24
		Total	$301,710.24
Estimated right-of-way costs			19,575.00
		TOTAL ANTICIPATED COST	$321,285.24

As per terms of the agreement dated November 22, 1966, pertaining to this project, an advance deposit in the amount of 25% of the above total, or say $80,300, is required from the City prior to awarding of the contract. At your earliest convenience, please forward a check or warrant in the amount of $80,300 made payable to the Oregon State Highway Commission.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

N. S. Cox
N. S. Cox
County and City Engineer

RECEIVED
MAR 21 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RU:mm
bc: F. B. Klaboe
L. H. Young
F. D. Morgan
R. D. Asburry
C. H. Maison
D. H. Moehring

RECEIVED
NOV 26 1968
FOR FILING

127-1120
7210

November 26, 1968

Oregon State Highway Commission

Gentlemen:

You may recall that the Commission has agreed with the City of Dallas to construct a couplet between Walnut Avenue and Washington Street on the Kings Valley Highway, with work to start as soon as funds are available. There are two agreements covering the work, one dated November 22, 1966, and the other August 20, 1968.

A portion of this total project consists of upgrading Main Street. The City wishes to proceed with this feature of the work just as soon as possible and has suggested that it do a portion of the work with City forces and that the remainder of this segment be done by the Highway Department. The total estimated cost of this work is approximately $50,000.

On the agenda for the December 17 meeting will be a supplemental agreement which will commit the City to do a portion of the work with the State picking up the remainder. The State will agree to do the stone base and paving after the City has done the drainage, grading and curbing work. Under this proposition, the State's share is estimated to be $13,500.

I recommend your approval and request authority for the Secretary to sign the agreement for andon your behalf.

Very truly yours,

Forrest Cooper
State Highway Engineer

DNH:mm/RLP:ms lms

bc:	Floyd Query	
	R. L. Porter	F. D. Morgan
	Tom Edwards	D. J. Barbee
	F. B. Klaboe	E. S. Hunter
	Victor D. Wolfe	D. H. Moehring
	C. H. Maison	R. D. Asburry
	L. H. Young	H. S. Cox

Routing
Morgan
Barber
Morelock
Trout
Scott
Wills
Litchfield
Olson

RECEIVED
CONSTRUCTION

FORM E-30 (12-67)

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
September 20, 1968

SUBJECT: Dallas Section
Kings Valley Secondary

To: Mr. F. D. Morgan
Construction Engineer
Department

Attention: Mr. D. J. Barbee

Dick Unrein and I met with Dallas City Manager Howard Brandvold yesterday morning relative to his September 10 letter requesting cooperation on replacing the deteriorated curbs on Main Street with new curbs with an adequate curb exposure.

The Dallas couplet survey included the six blocks the City wants to so improve on one side. The estimate that was submitted for this portion is attached, marked to show the portion the City currently proposes to do with their own forces. It would be the entire project, except the surfacing items, which would amount to just over 67 per cent for them and just under 33 per cent for us, and on the basis of State forces doing our portion would amount to $13,500 cost to us of the $41,300 project. This total is on the basis that a separate engineering and contingency item would be unnecessary.

The City proposes one-third of the project be done next spring during the current fiscal year and the remainder as soon as it could be budgeted—hopefully next summer in the next fiscal year.

As there was some consideration to doing this work under the current 75/25 cooperative project, with the larger figure our portion, and they have now offered to do the bulk of the work, it is recommended that we cooperate charging the Minor Betterment Budget authorized for this Division.

R. D. Asburry
Division Engineer

By Original signed by, Gerald Wimer

Gerald Wimer
Assistant Division Engineer

GW:mm
cc F. T. Lacey
E. J. Hall
Richard Unrein

OREGON STATE HIGHWAY
DEPARTMENT

SHEET 1 OF 1 SHEETS

Main Walnut Ave. - Washington Street
(Main Street Section)
City of Dallas

7-17-68
Responsibility

SUMMARY OF QUANTITIES

ITEM		UNIT	NET	ALLOW.	TOTAL	UNIT COSTS	AMOUNT
1. Clearing & Grubbing	City	All	All	—	All	$3,125.00	$3,125.0
2. General Excavation (Uncl.)	"	Cu. Yd.	945	105	1,050	1.50	1,575.0
3. Trench Excavation	"	"	199	21	220	4.00	880.0
4. Watering	State	M-Gal.	23	2	25	5.00	125.0
5. Seal Asphalt in Watering	"	Gal.	4,600	400	5,000	0.35	1,750.0
6. Stone Base	"	Cu. Yd.	532	58	590	5.40	3,190.0
7. Plant Mix Bituminous Base	"	Ton	341	19	360	9.50	3,420.0
8. Class "B" Asphalt Concrete	"	Ton	474	26	500	10.00	5,000.0
9. 8" Storm Sewer Pipe	City	Lin Ft.	32	3	35	2.50	87.5
10. 12" Storm Sewer Pipe	"	" "	564	56	620	3.75	2,325.0
11. Concrete Manholes	"	Each	3	1	4	325.00	1,300.0
12. Concrete Inlets, Type CB	"	"	17	2	19	120.00	2,280.0
13. Adjust Manholes	"	"	2	-	2	100.00	200.0
14. Cap Inlets	"	"	1	1	2	30.00	60.0
15. Furn. & Placing Topsoil	"	Cu. Yd.	31	4	35	3.00	105.0
16. Pavement Replacement	City	Lin Ft.	578	52	630	3.50	2,205.0
17. Monolithic Curb & Gutter	"	Cu. Yd.	129	11	140	50.00	7,000.0
18. Concrete Walks	"	Sq. Yd.	413	37	450	4.00	1,800.0
19. Concrete Surfacing	"	" "	262	28	290	4.50	1,305.0
					Subtotal	$	32,232.5
	Net Anticipated Items						
State = $ 13,2[illegible]5	32.[illegible]%	Flagging					500.0
City =	$2[illegible]	[illegible]%	Adjust Street Lights		City		2,000.0
Total =	41,[illegible]5.50	100 %	City Owned Utilities				1,500.0
					Subtotal		41,[illegible]
½ State total = $4,500			+20% Engineering & Contingencies				8,[illegible]

TOTAL = $ [illegible]

CITY OF DALLAS
[illegible]
[illegible]

Office of the City Manager

September 10, 1968

Routing
Morgan
Decker
Bond
Trout
Scott
Wills
Litchfield
Olson

RECEIVED
CONSTRUCTION

Mr. Don Harwell
Assistant County and City Engineer
Oregon State Highway Department
Salem, Oregon 97310

Dear Mr. Harwell:

During recent meetings between the City and your department we have often discussed the replacement of curbs and related facilities on Main Street. The State has deleted the work on Main Street as it relates to the one-way couplet for the present time.

The need to postpone the Main Street Portion of the project is some concern to the City of Dallas. The curbs are badly deteriorated and broken and in many cases the curb face is no longer exposed because of the many layers of resurfacing.

The City of Dallas is considering a plan to proceed with some Main Street work on our own. We would like to rebuild some of the curbs, install drainage where needed, and encourage property owners to rebuild sidewalks.

In order for the curb work to be most effective, we should change the grade of the street surface next to the curb face. Would it be possible for the state to rebuild the travel portion of Main Street that will be disturbed if the city proceeds with the curb program. The city would be happy to remove the existing blacktop next to the curb if the state could assume the cost of replacement.

Please give this matter some early consideration as we would like to proceed as early as possible if we can work out a financing plan.

Yours very truly,

Howard D. Brandvold
City Manager

HDB:lem

cc: Kloboe - please let me know
your desire [illegible]
Don H.

RECEIVED
SEP 11 1968
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
SEP 11 1968
ENGINEER
COUNTY & CITY DIVISION

NOTED
DON HARWELL

September 19, 1968

Hon. Howard D. Brandvold
Mayor of Dallas
City Hall
Dallas, Oregon 97338

Dear Mayor Brandvold:

The State Highway Commission at its meeting on August 20, 1968, adopted a survey concerning improvement on the Walnut Avenue-Washington Street (Dallas) Section of the Kings Valley Highway.

For your information, we have attached a sketch map showing the route of the new section and a copy of the Commission's "Survey Resolution No. 351" adopting the survey. This resolution also designates this section as a secondary.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr

Att.

RECEIVED
SEP 26 1968

FOR FILING

127-1130

7210

4K

August 22, 1968

MISC. CONTRACTS and
AGREEMENTS No. 5213

City of Dallas
City Hall
Dallas, Oregon 97338

Attention: Mrs. Lydia Martens
City Recorder

[illegible]
Aug [illegible]

Gentlemen:

Attached for your records is a fully executed copy of a letter-form cooperative construction-finance agreement covering the pending project on the Jefferson and Main Street couplet, between Walnut Avenue and Washington Street, on the Kings Valley Highway.

We have retained a fully executed copy for the Commission's files.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

wln
Attachment

cc H. S. Cox
(conformed agreement)

RECEIVED
AUG 12 1968
FOR FILING

127-1120
7210

August 9, 1968

Oregon State Highway Commission

Gentlemen:

The survey on the Walnut Street-Washington Street (Dallas) Section of the Kings Valley Highway in Polk County has been completed. This cooperative construction finance project consists of the institution of a one-way couplet by building a new bridge over Rickreall Creek and widening Jefferson Street to accommodate one-way traffic northbound. Existing Main Street will be used for southbound traffic. The City of Dallas has notified us that a hearing will not be necessary. The length of this project is 0.48 mile and a map is attached for your information.

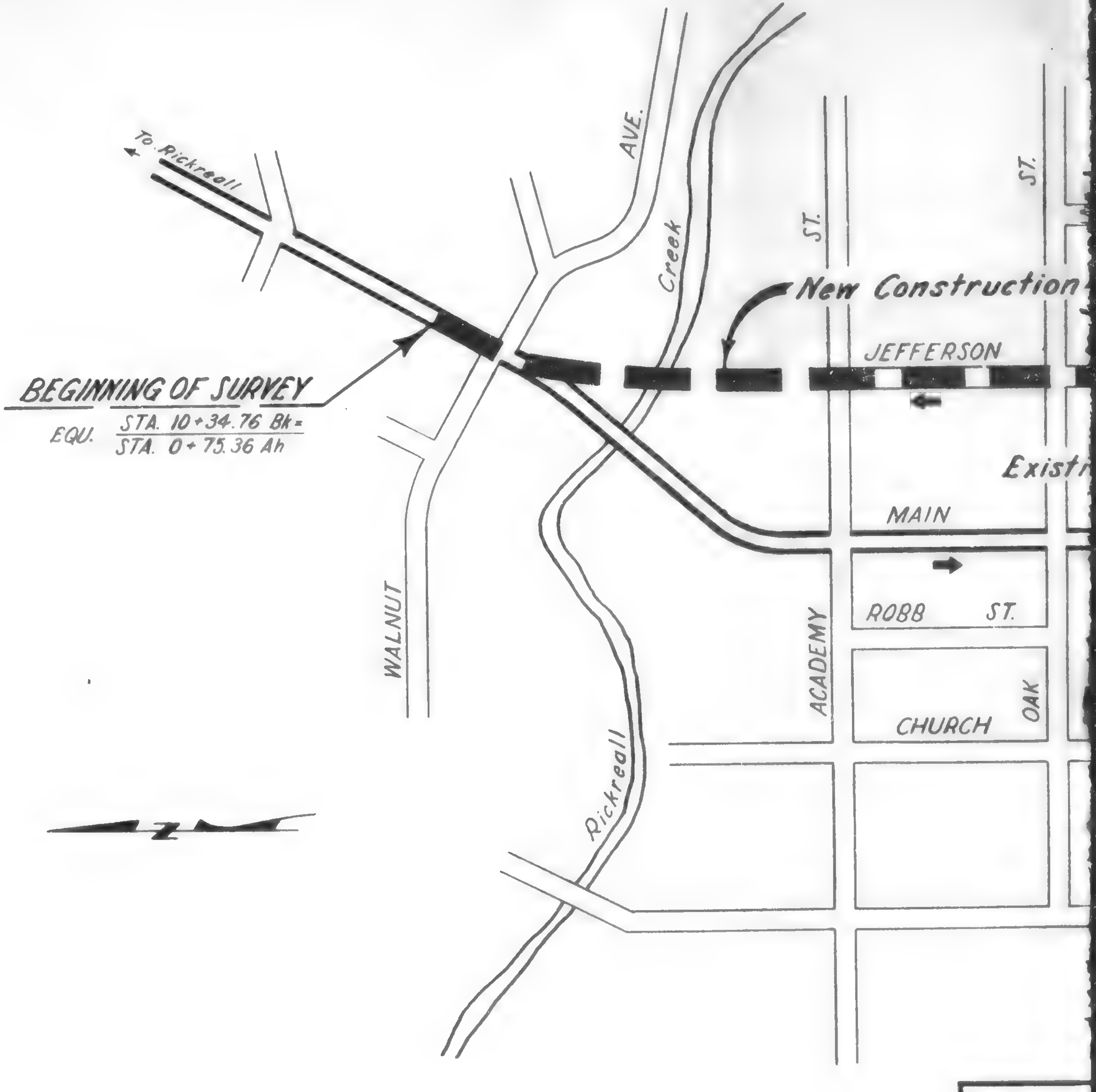
The estimated construction cost of this project is $315,000 and the estimated right-of-way cost is $30,500, for a total estimated cost of $345,500. A request for finance approval, utilizing current State funds, was presented for your consideration and approval July 18, 1968.

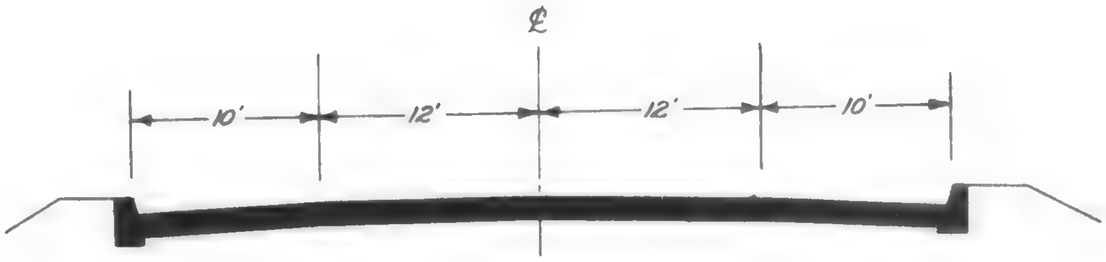
We request your approval of the survey and authority to purchase the necessary right-of-way when funds are available. This matter will be on the agenda for your consideration at the August 20 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

Enclosure
BG:jp lms
bc:
- Floyd Query
- R. L. Porter
- F. B. Klaboe
- Victor D. Wolfe
- C. H. Maison
- F. D. Morgan
- D. H. Moehring
- R. D. Asburry


To Rickreall
BEGINNING OF SURVEY
EQU. STA. 10+34.76 Bk= STA. 0+75.36 Ah
AVE.
WALNUT
Creek
Rickreall
ST.
ACADEMY
New Construction
JEFFERSON
Existi
MAIN
ROBB ST.
CHURCH
OAK
ST.
N



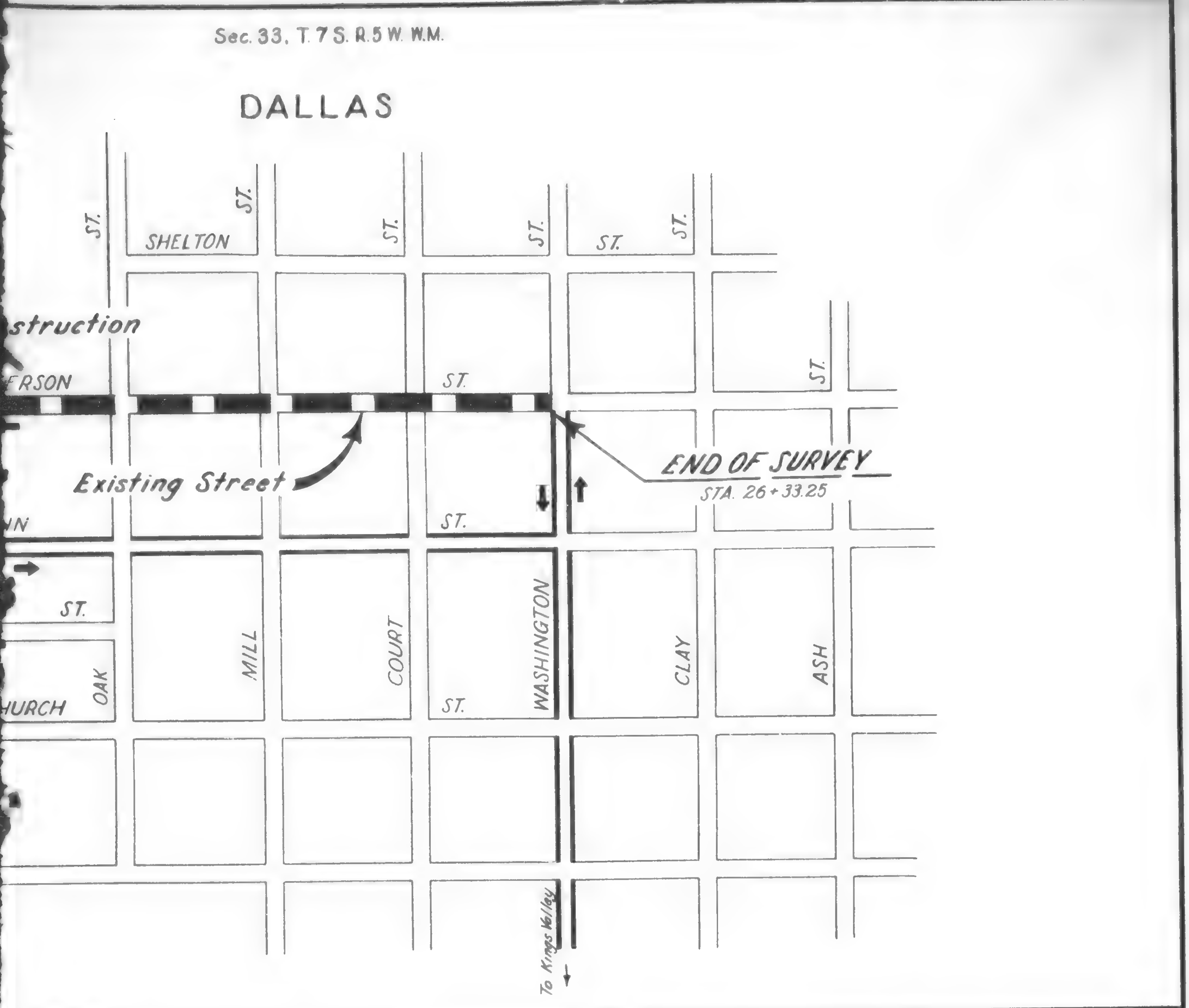
TYPICAL SECTION

PUBLIC HEARIN
SYSTEM ACTIO
COU
STAT
BUR
THROUGHWAY
ACCESS CONTR

APPROVE

0.18 Mi.

DRG. NO. 1R-4-344


Sec. 33, T. 7 S. R. 5 W. W.M.
DALLAS
ST.
SHELTON
ST.
ST.
ST.
ST.
ST.
struction
ERSON
ST.
ST.
Existing Street
END OF SURVEY
STA. 26+33.25
NN
ST.
ST.
HURCH
OAK
MILL
COURT
ST.
WASHINGTON
CLAY
ASH
To Kings Valley

PUBLIC HEARING .. None Required
SYSTEM ACTION
COUNTY .... None Required
STATE HIGHWAY COMMISSION .. Required
BUREAU OF PUBLIC ROADS ...... None Required
THROUGHWAY RESOLUTION ADOPTED .. None Required
ACCESS CONTROL ... None

APPROVED: AUG - 8, 1968

ORIGINAL SIGNED
R. L. PORTER
DEPUTY STATE HIGHWAY ENGINEER

OREGON STATE HIGHWAY DEPARTMENT

SURVEY APPROVAL MAP

WALNUT AVE. ~ WASH. ST. (DALLAS) SEC.

KINGS VALLEY HIGHWAY

POLK COUNTY

DRG. NO. 1R-4-344

SCALE: 1" = 400' ±

DATE: August, 1968

FOR DETAILS SEE DRG. NO.
8B-13-20

R AUG 7 - 1968

FOR FILING

127-1120
7210

August 7, 1968

Oregon State Highway Commission

Gentlemen:

Presented for your consideration at the August 20 Commission meeting will be a supplemental letter-form cooperative construction-finance agreement with the City of Dallas to cover the pending project on the Jefferson and Main Street couplet, between Walnut Avenue and Washington Street, on the Kings Valley Highway (ORE 223).

A previous agreement dated November 22, 1966, and a request for inclusion of this project on the current State Construction Program, in the amount of $315,000, is also on the August 20 agenda.

This document covers an initial project on Jefferson Street, with a possible future project on Main Street, depending on available funds, Highway Commission approval, et cetera.

The proposed project will be constructed on a 25 percent City-75 percent State basis. The total estimated cost of $315,000 includes the extension of Jefferson Street northerly to connect with Main Street and a structure over Rickreall Creek.

Your approval is recommended and authority is requested for the Secretary to sign on your behalf.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

R. L. Porter
Deputy State Highway Engineer

bc: Floyd Query
Forrest Cooper
Tom Edwards
F. B. Klaboe
Victor D. Wolfe
L. H. Young
C. H. Maison
D. H. Moehring
F. D. Morgan
Ivan Merchant
R. D. Asburry
H. S. Cox

DNH:eb ca

C

FORM E-128X 50M 6-67

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
~~DAVID B. SIMPSON, MEMBER~~
~~PORTLAND~~
~~FRED W. HILL, MEMBER~~
~~PENDLETON~~

Fred W. Hill, Pendleton
Thaddeus Bruno, Portland

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

137-1130
7-26

August 2, 1968

Hon. R. I. Van Den Bosch
The Mayor
City of Dallas
City Hall
Dallas, Oregon 97338

Dear Mayor Van Den Bosch:

Thank you for your promptness in execution of the letter-form agreement, and also your notification to us that the City of Dallas does not feel a public hearing would be necessary on the proposed one-way couplet in Dallas utilizing existing Main Street for traffic one-way, southbound, and extending Jefferson Street, including a structure over Rickreall Creek, to provide for one-way traffic, northbound.

This proposed project and agreement are pending Highway Commission approval at the August 20 meeting; and, hopefully, the project will be under construction yet this year.

This contemplated project on the Kings Valley Highway between Walnut Avenue and Washington Street, for which City has agreed to bear 25% of costs and State, 75%, is noteworthy in the splendid cooperation of your city and we again thank you.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

H. S. Cox

H. S. Cox
County and City Engineer

Aug agenda

DHH:mm

cc: Howard D. Brandvold,
City Manager

Floyd Query, w/attachments
Highway Commission Secretary

NOTED
FLOYD QUERY

bc: Forrest Cooper
R. L. Porter
Tom Edwards
F. B. Klaboe
V. D. Wolfe, w/attach.
L. H. Young
F. D. Morgan
G. E. Rohde
D. H. Moehring
R. D. Asburry, w/attach.
R. N. Chase
Ben Gifford

CITY OF DALLAS

Dallas
11-22-66 Coop Const Agmt

Office of the Mayor

July 31, 1968

NOTED
H. S. COX

RECEIVED
AUG 1 1968
ENGINEER
COUNTY & CITY DIVISION

Mr. H. S. Cox
County and City Engineer
Oregon State Highway Department
Salem, Oregon

Dear Mr. Cox:

At the meeting of the Dallas City Council on July 1, 1968 your offer to hold a public hearing in Dallas to consider the proposed construction of facilities to accomplish a one-way couplet in this city was considered. The construction proposed to accomplish the couplet includes substantial improvements in Jefferson Street and a bridge across the Rickreall. The end result will make Main Street one-way southbound between Walnut Avenue and Washington Street and Jefferson Street one-way northbound between Walnut Avenue and Washington Street.

After considerable discussion by the city council, it was their unanimous opinion that the proposed couplet improvement has received considerable publicity during the last several years of planning, and that all known persons in Dallas are aware of the project and anxious for its completion. It was therefore considered by the city council that no public hearing would be necessary prior to construction.

Thank you for the offer to hold the hearing. We believe in this instance, it will not be necessary.

Yours very truly,

R I Van Den Bosch

R. I. Van Den Bosch
Mayor

ATTEST:

Howard D. Brandvold
City Manager

HDB:lem
cc: Avery - Wolfe - [illegible]

NOTED

OREGON STATE HIGHWAY DEPARTMENT
CONSTRUCTION DIVISION
SOILS AND GEOLOGY SECTION
PROJECT BASE DESIGN

Page 1 of 2 Pages

Prefix 127-1425

Date 7-23-68

JUL 30 1968

Section WALNUT AVE. - WASHINGTON ST. (DALLAS) Highway KINGS VALLEY (FAR 190) County POLK

Res. Engr. E. J. Hall Approx. Length 0.46 Miles. Sta. _____ to Sta. _____

~~Mean~~ Truck A.D.T. 421 Traffic Coefficient 8.6 18 kip s.a. per day 120.8.
(Automobiles not considered)

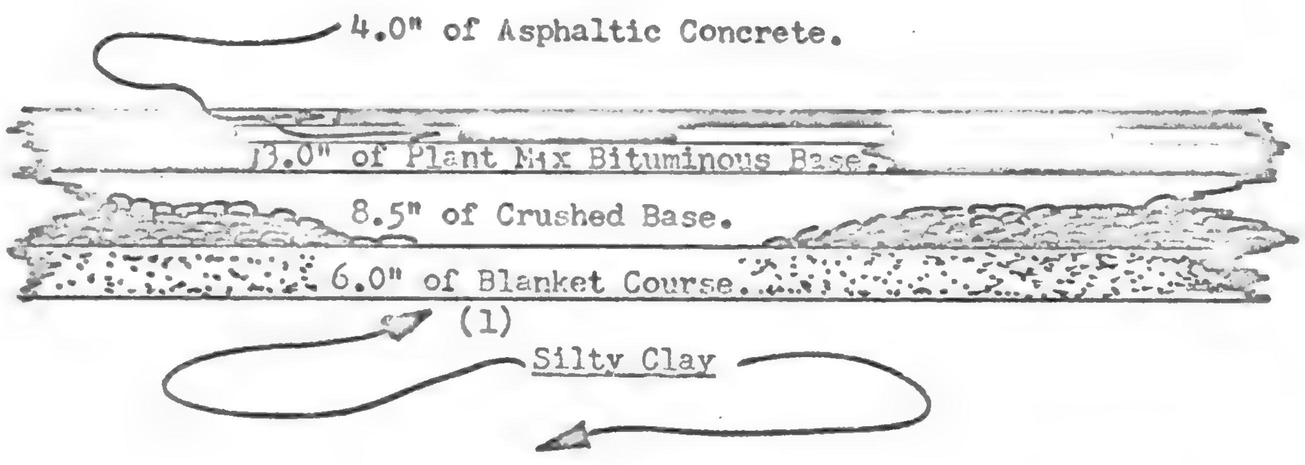
Annual Precipitation 49"± Frost Penetration - - - - - .

(1)

Typical Soil	
46	LL
12	PI
97	%P 10
81	%P200
3	%Gravel
2	%C Sand
14	%F Sand
44	%Silt
37	%Clay
8	"R" Value (~~Corrected~~)

AASHO CLASSIFICATION:
A-7-6 (17)

MATERIAL SOURCES:
To be determined by the Engineer.


4.0" of Asphaltic Concrete.
3.0" of Plant Mix Bituminous Base.
8.5" of Crushed Base.
6.0" of Blanket Course.
(1)
Silty Clay

See Remarks on Page 2.

CBE Total Req.	Credit	Actual Thick.	
	8.0	4.0	A.C.
	5.5	3.0	P.M.B.B.
	8.5	8.5	Cr. Base
	6.0	6.0	Blanket
28.0	28.0	21.5	

7-23-68

NOTED
F. B. KLABOE

cc:
B.P.R.
Asst. State Highway Engineer
Construction Engineer
Engineer of Materials
Division Engineer
Resident Engineer
Office Engineer
Design Engineer
Division Geologist
~~Chief Location Engineer~~
Rural Engineer

Submitted by E. J. Gregg
for Staff Assistant

Recommended by J. E. Wilson
Asst. Engineer of Materials

Recommended by L. T. Oeder
Asst. Construction Engineer

Approved by
Asst. State Highway Engineer

WALNUT AVE. – WASHINGTON ST.
(DALLAS)
KINGS VALLEY HIGHWAY (FAR 190)
POLK COUNTY

"OTHER ROADS"

"R" = 8

TRAFFIC COEFFICIENT		A.C. WEAR SURF	P.M.B.B.	LEVEL COURSE	CRUSHED BASE	3/4"-0 Blanket	"CBE" TOTAL REQUIREMENT	ACTUA THICK
7 – 8		3.5"	3.0"	-----	6.0"	6.0"	24.5"	18.5"
6 – 7		3.0"	----	2.0"	7.0"	6.0"	21.0"	18.0"
4.8 – 6		2.0"	----	2.0"	6.0"	6.0"	18.0"	16.0"
Cars Only		2.0"	----	2.0"	3.0"	4.0"	13.0"	11.0"

Should substitutions be made use the "CBE" TOTAL REQUIREMENT column to obtain the "TOTAL THICKNESS REQUIRED" and the table below for values:

1.0"	Asphaltic Concrete	=	2.0" Crushed Base
1.0"	Plant Mix Bituminous Base	=	1.8 " Crushed Base
1.0"	Cement Treated Base	=	___ " Crushed Base
1.0"	Oil Mat	=	1.1" Crushed Base
1.0"	Stone Subbase (Per Standard Specifications) (plus Supplementals.)	=	0.8" Crushed Base
1.0"	Lime Treated Subgrade	=	___ " Crushed Base

REMARKS:

Blanket course to meet all specifications for Stone Base plus:

3/4"-0 maximum top size
15% minimum P #40 sieve
8% maximum P #200 sieve

TRAFFIC ANALYSIS

SECTION: WALNUT AVE. - WASHINGTON ST. (DALLAS)
HIGHWAY: KINGS VALLEY (FAR 190)
COUNTY: POLK

9600 Present ADT (1968)
3 Percent Trucks

AXLES	TWO WAY TRUCK ADT	EXPANSION FACTOR	TOTAL TADT	MEAN TADT	ONE WAY EWL	AVERAGE ANNUAL EWL
2	156	1.9	296	226	450	101,700
3	100	1.9	190	145	1000	145,000
4	4	1.9	8	6	1250	7,500
5	30	1.9	57	44	3180	139,920
6	0	----	---	--	2570	-----
				421	TOTAL	

TOTAL AVERAGE ANNUAL DESIGN EWL 394,120
TWENTY YEAR EWL 7,882,400
TRAFFIC COEFFICIENT 8.6

SECTION: WALNUT AVE. - WASHINGTON ST. (DALLAS)

HIGHWAY: KINGS VALLEY (FAR 190)

COUNTY: POLK

PAVEMENT TYPE SELECTION

Principal Factors Governing Selection

1. Traffic Classification: See attached sheet
2. Soils Characteristics: See design chart attached
3. Weather: See design chart attached
4. Performance of Similar Pavements in Area: Good X Fair ____ Poor ____
   Remarks: ____
5. Cost Comparisons: SEE REMARKS

Secondary Factors Governing Selection

6. Adjacent Existing Pavements: GENERALLY ASPHALTIC CONCRETE OR OIL (SOME P.C.C.)
7. Stage Construction: NOT APPLICABLE
8. Depressed, Surface, or Elevated Design: SURFACE
9. Conservation of Aggregates: SEE REMARKS
10. Stimulation of Competition: SEE REMARKS
11. Construction Consideration: NOT A PROBLEM
12. Municipal Preference, Participating Local Government Preference, and Recognition of Local Industry: CITY PREFERS ASPHALTIC CONCRETE
13. Traffic Safety: NOT A PROBLEM
14. Availability of an Adaption of Local Materials or of Local Commercially Produced Paving Mixes: LOCAL MATERIALS ARE ADAPTABLE TO THIS TYPE CONSTRUCTION

CONCLUSION AND REMARKS:

NO COST COMPARISON MADE AS THIS IS A SHORT (0.46 mi.) SECTION, AND ASPHALTIC CONCRETE WOULD BE MORE DESIRABLE FOR THE TYPE WORK INVOLVED.

RECEIVED
JUL 18 1968
FOR FILING

197-1120

7210

July 16, 1968

Oregon State Highway Commission

Gentlemen:

On June 6, I wrote to you regarding Highway Commission policy pertaining to cooperative construction finance projects re cities borne basically 75 percent by the State and 25 percent by cities.

We have completed surveys on two cooperative projects, one in the city of Albany and the other in the city of Dallas.

The Santiam Junction-Southeast Pacific Highway Intersection (Albany) Section involves [illegible] construction of concrete curbs, storm sewer system, signalization, and a channelization at the junction of the Santiam Highway. The estimated cost for construction of this project is $45,000. State's share $32,000, City's share $13,000.

The Walnut Street-Washington Street (Dallas) Section consists of the institution of a one-way couplet by building a new bridge over Rickreall Creek and widening Jefferson Street to accommodate one-way traffic northbound. Existing Main Street will be used for southbound traffic. The estimated cost of construction on this project is $315,000. State's share $236,250, City's share $78,750.

We recommend that these two projects be added to the current State Construction Program for letting in the fall or early winter of this year.

This matter will be on the agenda for the August 20 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc Floyd Quary
R. L. Porter
F. B. Klaboe
Victor D. Wolfe
L. H. Young
C. H. Maison
F. D. Morgan
R. D. Asburry
BG:jp fn

FORM E-122

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
~~KENNETH W. FRIDLEY, MEMBER~~
~~WASCO~~
DAVID B. SIMPSON, MEMBER
PORTLAND
~~Fred Hill, Member~~
Helix

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

APR 25 1967

127-11[illegible]
4210

April 21, 1967

Mr. Howard D. Brandvold
City Manager
City Hall
Dallas, Oregon 97338

Dear Mr. Brandvold:

This letter is being written to reaffirm the City and State agreement regarding Jefferson-Main Streets proposed couplet in the city of Dallas and to clarify to all interested parties the nature of correspondence, agreements, and resolutions to date.

Although much preliminary work and considerable correspondence and planning occurred prior to March 18, 1966, I will, in this letter recite the important details pertaining to the Dallas Couplet from the above-mentioned date.

March 18, 1966 Mr. Brandvold and Mr. Chapman were in my office. At this meeting a 75%-25% agreement was suggested. A memo was written to Mr. Klaboe and Mr. Tebeau was asked to prepare estimates to implement the proposed couplet.

April 12, 1966 Mr. Tebeau submitted a three-phase scheme:
Phase 1. Improvement of Main and Jefferson between Academy and Washington Streets. Estimate, $120,000.
Phase 2. Improve and extend Jefferson Street north to junction with Main Street and includes bridge over Rickreall Creek. Estimate, $150,000.
Phase 3. Complete ultimate couplet pattern. Involves improvement of Clay and Washington Streets. Estimate, $240,000.

June 10, 1966 Mr. Cooper and Mr. Klaboe met with Mr. Brandvold regarding couplet.

July 12, 1966 Mr. Klaboe advised you by letter that phase 1 and phase 2 should be combined and that this estimate was $300,000.

September 21, 1966 Cooperative construction agreement mailed to Mr. Brandvold. Provides for 75% State, 25% City participation. Estimate, $300,000

October 4, 1966 Signed agreement transmitted to County-City Division, Salem.

November 22, 1966 Cooperative construction agreement between City and State approved. This agreement is for improvement of Main Street and Jefferson Street between Walnut Avenue and Washington Street and provides for the usual 75%-25% cooperative participation. Estimate, $300,000.

Attached to this agreement is the City of Dallas Resolution which provides, among other things, the following: Estimate, $300,000; cost 75% State, 25% City; payment of City's share will be immediately subsequent to July 1, 1968, and with the stipulation that City's share will not exceed approximately $75,000. Dated and approved August 15, 1966.

At this point it should be noted that between the time the agreement was submitted to the Highway Commission (October 11, 1966) and the time it was approved (November 22, 1966), an estimate was made for improving Main Street. Three different schemes were proposed and Mr. Klaboe advised you by letter of 11/2/66 that scheme number one would increase the cost of the total project but in his opinion would be preferable. This scheme was estimated at $70,000.

March 22, 1967 Your letter of this date, I believe, is in answer to Mr. Klaboe's letter of 11/2/66 advising you of the different schemes for Main Street improvement. Mr. Klaboe has no objection to your request, but he does advise that these suggested improvements will become a part of the total project. This will confirm Mr. Klaboe's letter of 7/12/66 wherein he combines phases 1 and 2.

As this proposed project extends over a considerable period of time, it is hoped that the recapitulation of events in this letter will refresh the memories of all concerned.

Should there be any point of disagreement, please draw it to our attention promptly so that we may all be in accord.

Very truly yours,

H. S. Cox
County and City Division Engineer

HSC:mm

cc: F. B. Klaboe
bc: R. D. Asburry
F. D. Morgan
J. E. Morelock

RECEIVED
APR 21 1967
OFFICE OF
STATE HIGHWAY ENGINEER

NOTED

Commissioners
J. Pat Metke, Bend
Chairman
Wayne E. Phillips, Baker
Vice-Chairman
John P. Amacher, Winchester
Tallant Greenough, Coquille
Joseph W. Smith, Klamath Falls

Mailing Address
P. O. Box 3503
Portland, Oregon 97208

STATE OF OREGON
OREGON STATE GAME COMMISSION
1634 S W ALDER STREET
PORTLAND

RECEIVED
FEB 1 1 1967
PORT

127-1120

7210

February 10, 1967

Routing
Scott
Wills

State Highway Engineer
State Highway Department
Salem, Oregon 97310

Attention: Mr. F. D. Morgan

Dear Sir:

This is in reply to your letter of January 25, 1967 which enclosed a prospectus for location survey on the following project:

Walnut Avenue-Washington Street Section, Kings Valley Highway, Polk County.

Our only interest in this project is the construction of the bridge over Rickreall Creek. This stream contains both anadromous and resident game fish. Work in the stream should be confined to the period of from June 1 to November 30, so that minimum interference to fish runs can be expected. Siltation should be avoided and pollution of the stream by any means should not be allowed.

NOTED
F. B. KLABOE

The opportunity to comment upon this project is appreciated.

Very truly yours,

P. W. SCHNEIDER
DIRECTOR
By R. O. Koski
R. O. Koski
Chief of Liberations

ROK/dm

cc: Director OFC
2-14-67 Copies to:
F. B. Klaboe
L. H. Young
Frank Hall
T. C. Roake
J. E. Morelock
R. D. Asburry (2)
fp

RECEI
FEB 1
OFFICE
STATE HIGHWAY

COMMISSIONERS
GLENN L. JACKSON, CHAIRMAN
MEDFORD
KENNETH N. FRIDLEY, MEMBER
WASCO
DAVID B. SIMPSON, MEMBER
PORTLAND

RECEIVED
MAR 7 1967

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

JAN 27 1967 RECEIVED
FISH COMMISSION
_Director
_Asst. Director
_Fiscal Officer
_Spec. Asst.
_Auditor
_Licenses
_Fish Culture
_Research
_Engineering Eh
_Water Res.
_Info-Ed.
_Surname

January 25, 1967

Mr. Robert W. Schoning
State Fisheries Director
Fish Commission of Oregon
307 State Office Building
Portland, Oregon 97201

Dear Sir:

Enclosed is the following prospectus for a location survey proposed by the Oregon State Highway Department:

Walnut Avenue-Washington Street Section, Kings Valley Highway, Polk County

This data is forwarded to comply with Modification No. 1 dated May 19, 1965 of our Memorandum of Understanding dated September 12, 1963.

3/6/67
Copies to
[illegible]
Young
Hall
[illegible]
Merrick
Astoria (2)
[illegible]

Very truly yours,

Forrest Cooper
State Highway Engineer

By

F. D. Morgan
Construction Engineer

SNR 3-2-67

Enc.

Dear Mr. Morgan,

We concur with the recommendations of the Oregon Game Commission in their ltr. to you dated Feb. 10, 1967.

Burt Carnegie
Hydraulic Engr.

cc: OGC

JAN 27 1967

1-25-67

FOR FILE

127-1120
7210

Prefix No. 127-1425

LOCATION PROSPECTUS
WALNUT AVENUE-WASHINGTON STREET SECTION
KINGS VALLEY HIGHWAY
POLK COUNTY

HIGHWAY:	Kings Valley, State Secondary No. 191, Federal-aid Secondary No. 190.
TERMINI:	The northerly terminus is at M.P. 2.96 which point is at the intersection of Walnut Avenue and the Kings Valley Highway. The southerly terminus is at M.P. 3.40 which point is at the intersection of Washington Street and Main Street.
LENGTH:	0.44 mile.
PROGRAM:	Not programmed. Cooperative project.
NARRATIVE:	This will be a location survey to prepare plans, specifications and estimates of cost for grading, paving and structure. The purpose of this survey is to establish a one-way couplet along Jefferson Street in Dallas. The proposed route begings at the intersection of the Kings Valley Highway with Walnut Avenue, where it leaves the existing highway and runs southerly along the line of Jefferson Avenue projected northward across Rickreall Creek and along existing Jefferson Avenue to Washington Street, thence westerly along Washington Street to Main Street. Reconnaissance was made by the Preliminary Studies Section. Soils investigations will be conducted. Drainage problems are not anticipated. Investigations will be made of past high water data to see if the design of this project will be affected. An economic analysis is not needed at this time.
CHARACTERISTICS:	Present ADT 4,800 each way; projected ADT 9,000 each way.
TYPICAL SECTION:	Forty-four-foot curb to curb street section. Sidewalks to be determined during the survey.
BRIDGE:	Proposed structure over Rickreall Creek to have a horizontal clearance of 44 feet, the necessity of sidewalks to be determined during the survey.
BASE DESIGN:	The tentative base design for construction is:

Paving	4" A.C.
Top Course Base	3" Plant Mix Bituminous Base
Bottom Course Base	16" Crushed Rock
Total Depth	23"

NOTED R. L. PORTER

NOTED COOPER

ADDITIONAL FACILITIES: The Dallas Airport lies approximately 0.3 mile northerly of project.

ACCESS: Under City jurisdiction.

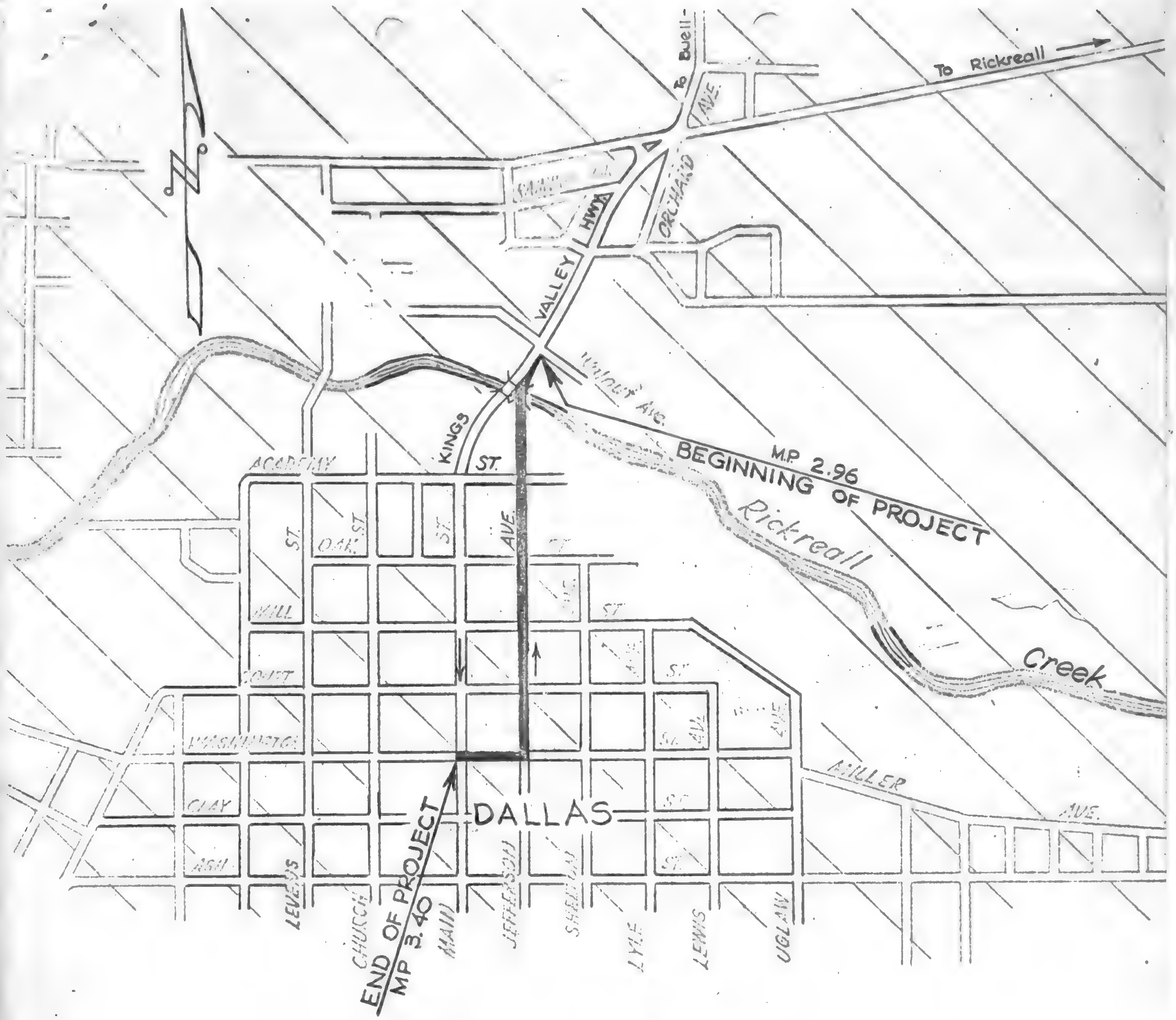
MATERIAL: Commercial sources.

AGREEMENTS: Agreements with the City of Dallas will be required. An opportunity for a public hearing will be offered. Routine utility adjustments may be needed.

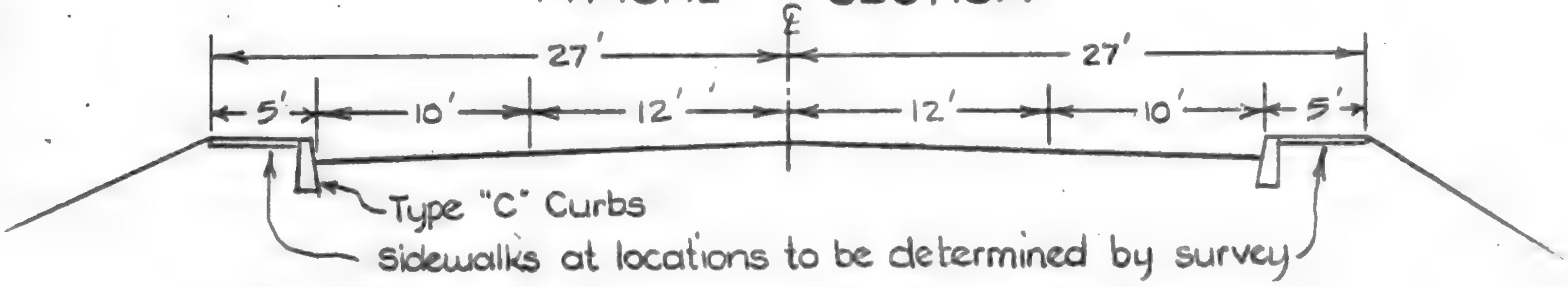
PARKS AND WAYSIDES: None.

January 25, 1967
Attachment
cc: A. W. Parsons
Forrest Cooper
F. B. Klaboe
Victor D. Wolfe
Tom Edwards
F. D. Morgan
R. D. Asburry (4)
Mark Astrup
R. N. Chase
H. S. Cox
F. B. Crandall
Frank Hall
E. S. Hunter
Val Johnson
Ivan Merchant (4)
D. H. Moehring (3)
A. D. Olson
James Owens
Phil Preston (2)
Jack Rowland
Robert Royer
W. H. Tebeau
O. C. Turner
F. W. Yarbrough (2)
L. H. Young

RECEI
JAN 26 1967
OFFICE
STATE HIGHWAY


To Rickreall
To Buell
AVE.
ORCHARD
VALLEY HWY
Walnut Ave.
KINGS ST.
ACADEMY
M.P. 2.96 BEGINNING OF PROJECT
Rickreall Creek
OAK ST.
ST.
AVE.
MILL
COURT
WASHINGTON
CLAY
ASH
DALLAS
MILLER AVE.
END OF PROJECT MP 3.40
LEVENS
CHURCH
MAIN
JEFFERSON
SHELTON
LYLE
LEWIS
UGLOW

TYPICAL SECTION


℄
27'
27'
5'
10'
12'
12'
10'
5'
Type "C" Curbs
Sidewalks at locations to be determined by survey

PROSPECTUS MAP
WALNUT AVE. - WASHINGTON ST. SECT.
KINGS VALLEY HWY.
Polk County
Dec. 1966

RECEIVED
OCT 11 1966

127-1120

7210

October 11, 1966

Oregon State Highway Commission

Gentlemen:

Presented for your consideration at the November 22 meeting will be a cooperative construction finance agreement with the City of Dallas for the Main Street–Jefferson Street Section (one-way couplet) of the Kings Valley Highway (OR 223) within the city of Dallas between Washington Street on the south and Walnut Avenue on the north.

This agreement provides for construction and maintenance of the project by the State, within the curb limits of the project, and covers right-of-way acquisition, grading, base, paving, and structure.

Further provisions are made for utility relocation, grade revisions, encroachments, parking restrictions, et cetera.

The project is not on any tentative schedule and is estimated to cost approximately $300,000, with the entire cost of the project to be shared on a 75 percent State–25 percent City basis. The City will deposit with the State an amount of approximately $75,000 prior to award of contract by the State.

We recommend your approval and request authority to purchase the right-of-way. We also request authority for the Secretary to sign the agreement for and on your behalf. Approval of construction when funds are available is also requested.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
F. B. Klaboe
Victor D. Wolfe
D. H. Moehring
F. D. Morgan
I. D. Merchant
L. H. Young
H. S. Cox
C. H. Maison
R. B. Crandall
R. D. Asburry

DNH:mm bg

RESOLUTION NO. 1430

8-15-66

A Resolution committing the City of Dallas to join with the State of Oregon, acting by and through its State Highway Commission, in the initiation of a one-way street plan on Main Street and Jefferson Street from Rickreall Creek to Washington Street, including the construction of a bridge across Rickreall Creek; and to the payment of 25 per cent of the cost thereof immediately subsequent to July 1, 1968.

WHEREAS, the City Council of the City of Dallas has heretofore approved the adoption of a street plan whereby Main Street will be reserved for traffic moving in a Southerly direction only from Rickreall Creek to Washington Street, and Jefferson Street will be reserved for traffic moving in a Northerly direction only from Washington Street to Rickreall Creek, provided a bridge is constructed across Rickreall Creek at the Northerly terminus of Jefferson Street which will connect Jefferson Street with N. Main Street and

WHEREAS, the City Council has caused said plan to be presented to the State of Oregon, acting by and through its State Highway Department, for its consideration; and

WHEREAS, the said State of Oregon, by and through its State Highway Commission, has completed a reconnaissance study of such proposal and has indicated to the City that the estimated cost thereof is $300,000.00; that said proposal could be initiated on a basis whereby the work to be done would be performed by the State of Oregon and the cost thereof could be divided between the City and the State of Oregon on a basis whereby the City would bear one-fourth of the total sum and the State of Oregon would bear the remaining three-fourths of said total sum; and

WHEREAS, the State of Oregon has requested advice from the City of Dallas as to whether it desires to proceed with said proposed street plan and whether it will commit itself to the payment of one-fourth of the total costs incurred in the establishment of said plan: NOW, THEREFORE,

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF DALLAS:

Section 1. The City Council of the City of Dallas hereby commits the City of Dallas to proceed with the initiation of said one-way street plan and to join with the State of Oregon, acting by and through its State Highway Commission, in the accomplishment of said plan.

Section 2. The City Council of the City of Dallas hereby requests the State of Oregon, acting by and through its State Highway Commission, to proceed with the preparation of detailed plans and estimates for the work required in the establishment of the aforesaid one-way street plan and the construction of the aforesaid bridge.

Section 3. The City Council of the City of Dallas commits the said City to the payment of one-fourth of the total costs incurred in connection with the establishment of said street plan and the construction of said bridge with the understanding that the work involved will be performed by the State of Oregon, acting by and through its State Highway Commission, and with the further understanding that the City's share of said costs will be paid immediately subsequent to July 1, 1968 or at such time thereafter as said costs shall be finally determined. Said commitment is made with the further understanding that the City's share of said costs will not exceed the approximate sum of $75,000.00.

Adopted August 15, 1966.

Approved August 15, 1966.

Mayor

ATTEST:

City Manager

RECEIVED
JUL 13 1966

FOR FILING
1127-1120

7210

July 12, 1966

907

Mr. Howard D. Brandvold
City Manager
City of Dallas
City Hall
Dallas, Oregon

Dear Mr. Brandvold:

We have completed our reconnaissance study of combining phase 1 and 2 of your plan for a couplet. As you know, we do not feel that the institution of just phase 1 would help solve the problem.

Our estimate for the combined plan is $300,000. It includes $25,000 for storm sewers and $10,000 for restoring curbs on Main Street.

If it is your desire to initiate a 75 percent State-25 percent City project, please advise and we will present the matter to the State Highway Commission for their reaction.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

F. B. Klaboe
Assistant State Highway Engineer

FBK:erb

cc: Forrest Cooper
R. L. Porter
Tom Edwards
F. D. Morgan
H. S. Cox
R. D. Asburry

FORM E-30 . 50M 10-65 SP*23401-734

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
June 28, 1966

SUBJECT: Assignment No. 807-FBK
Couplet Proposal
City of Dallas

To:

Mr. F. B. Klaboe
Assistant State Highway Engineer
BUILDING

I have looked into the problem of the couplet proposal for the city of Dallas, and I will agree that Phases 1 and 2 at the onset would be the most desirable; however, to provide for this now would be governed by the City's ability to finance their portion of the proposal.

Since heavy trucks are routed over a separate facility, it is possible that any work on Main Street (Oregon 223) between Washington and Academy Streets could be forestalled and the money ($50,000 estimated cost) applied to the Phase 2 construction. The estimated cost for Phases 1 and 2 combined would then be $220,000; should the existing storm sewer system prove to be nonadequate, the cost would be increased about $25,000 to provide adequate storm sewers. It might be pointed out that the City officials had also expressed a desire to have the curbs along Main Street either replaced or restored which would cost in the neighborhood of $10,000. The "half sole" included in the original estimate amounts to $15,000 between Washington and Academy Streets.

With respect to the Jefferson Street element of the couplet, the reconnaissance estimate was based upon the assumption that all pavement with the exception of the PCC pavement existing was non-salvageable -- a "half sole" was used in the areas where the concrete pavement was utilized for the purpose of assuring a good watertight seal between the PCC and AC joints and to provide continuity in surface texture of the improved street. Without a comprehensive soils investigation, it would be difficult to ascertain whether or not the present surfacing would be adequate for the traffic that would be expected upon it. It was assumed also that any storm sewers in existence would not be capable of handling the drainage pattern of the improvement.

The 1964 ADT through the area is indicated to be 7,100 (average value); the 1965 ADT shows an increase of 200 vehicles over the 1964 count. From AASHO "A Policy on Arterial Highways in Urban Areas", it is revealed that a two-lane street having a high volume of cross and turning traffic with signals can handle up to 8,400

ADT (Table C-5, p. 134). Assuming that signals are installed (I do not believe that there are any signals in Dallas at present), and that traffic increases at a linear rate, the need for a couplet pattern will be apparent by 1970. In the interim, however, signals may provide a partial relief of the traffic problems that may exist in downtown Dallas.

F. D. Morgan
Construction Engineer

By W. H. Tebeau
W. H. Tebeau
Preliminary Studies Engineer

WHT:fp

RECEIVED
JUN 29 1966
OFFICE OF
STATE HIGHWAY ENGINEER

FORM E-30 50M 10-65 SP*23401-734

Routing
Morgan
Decker
Barbee
Walker
Glenn
Swan
Pease
Morelock
Trout
Scott
Wills
Litchfield
Olson

RECEIVED
JUN 15 1965
CONSTRUCTION
DIVISION

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
June 14, 1966

SUBJECT: Couplet Proposal
City of Dallas

To: Mr. F. D. Morgan
Construction Engineer
BUILDING

Mr. Cooper and I visited Dallas last week to watch firsthand the traffic conditions. While we saw nothing to support the institution of a couplet, we would be interested in investigating an alternate proposal.

Please do the things suggested below without benefit of survey parties.

1. We believe that to institute phase I alone would create more problems than they would cure. For instance, the north end of this proposal would contain two right-angle turns ending up on a piece of poor alignment over Rickreall Creek.

2. There are truck routes through the city that prohibit traffic from Main and Jefferson Streets. Therefore, these streets would probably not need an overlay.

3. Therefore, phase I and II could probably be initiated together to make a workable facility.

4. The existing drainage system may or may not be adequate. Some investigation should be made to determine this feature.

When you have finished your investigation, please advise me of new cost estimates.

F B Klaboe
F. B. Klaboe
Assistant State Highway Engineer

NOTED
6-16-66
W. H. TEBEAU

FBK:srb

cc: Victor D. Wolfe
H. S. Cox
R. D. Asburry

FORM E-30 50M 3-65 SP*6470-724

Staff

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon

April 12, 1966

SUBJECT: Couplet Proposal
City of Dallas

To:

Mr. F. D. Morgan
Construction Engineer
OFFICE

ATTENTION: Mr. D. J. Barbee

At the request of Mr. H. S. Cox of the County City Relations Division, an investigation was made to determine costs for introducing a couplet pattern through the central business district of Dallas. Briefly, the couplet would utilize Clay and Jefferson Streets for the northbound/eastbound element and Washington and Main Streets (existing Oregon 223) for the southbound/westbound element. A small scale map depicting the couplet proposed is attached.

It is the desire of the city officials to carry out the couplet plan by means of a three-phase program. A brief dissertation of each phase is given below along with the estimated construction cost. In these estimates it is assumed that segmental improvement of Oregon 223 would be done at the time each phase is introduced, and for this reason the cost of the appropriate segment is given under the particular phase in question.

PHASE 1 - This would involve improvement of Main and Jefferson Streets between Academy and Washington Streets - four blocks in length. Jefferson Street would be improved to a nominal 44-foot street with curbs and the placing of a "half-sole" and installation of curbs where needed on Main Street. This arrangement could be placed into operation by temporarily utilizing Washington Street on the south and Academy Street on the north to provide a workable couplet at the onset. Estimated cost for Phase 1 is $120,000 for 0.31 mile (1,635 feet):

	Jefferson Street		Oregon 223	
Grade and Pave	$70,000		$50,000	
Structure	- - - -		- - - -	
Right of Way	- - - -		- - - -	
Est. Const. Cost	$70,000	+	$50,000	= $120,000

PHASE 2 - This would involve extending Jefferson Street north to Oregon 223 and will require a bridge over Rickreall Creek. This phase would complete the couplet pattern in the north/south direction. Oregon 223 had been improved from Academy Street north to a 44-foot street in 1960 and it is assumed to be adequate for this proposal. Estimated cost is $150,000 for 0.12 mile (640 feet).

	Jefferson Street		Oregon 223	
Grade and Pave	$ 35,000		- - - -	
Structure	85,000		- - - -	
Right of Way	30,000		- - - - -	
Est. Const. Cost	$150,000	+	- - - - -	= $150,000

PHASE 3 - This phase would complete the ultimate couplet pattern and would involve the improvement of Clay Street to a 44-foot street between Fairview and Jefferson Streets. Washington Street (Oregon 223) between Fairview and Main Streets plus the block on Fairview Avenue between Clay and Washington Streets would also be improved to a 44-foot street. Estimated cost is $240,000 for 0.56 mile (2,950 feet):

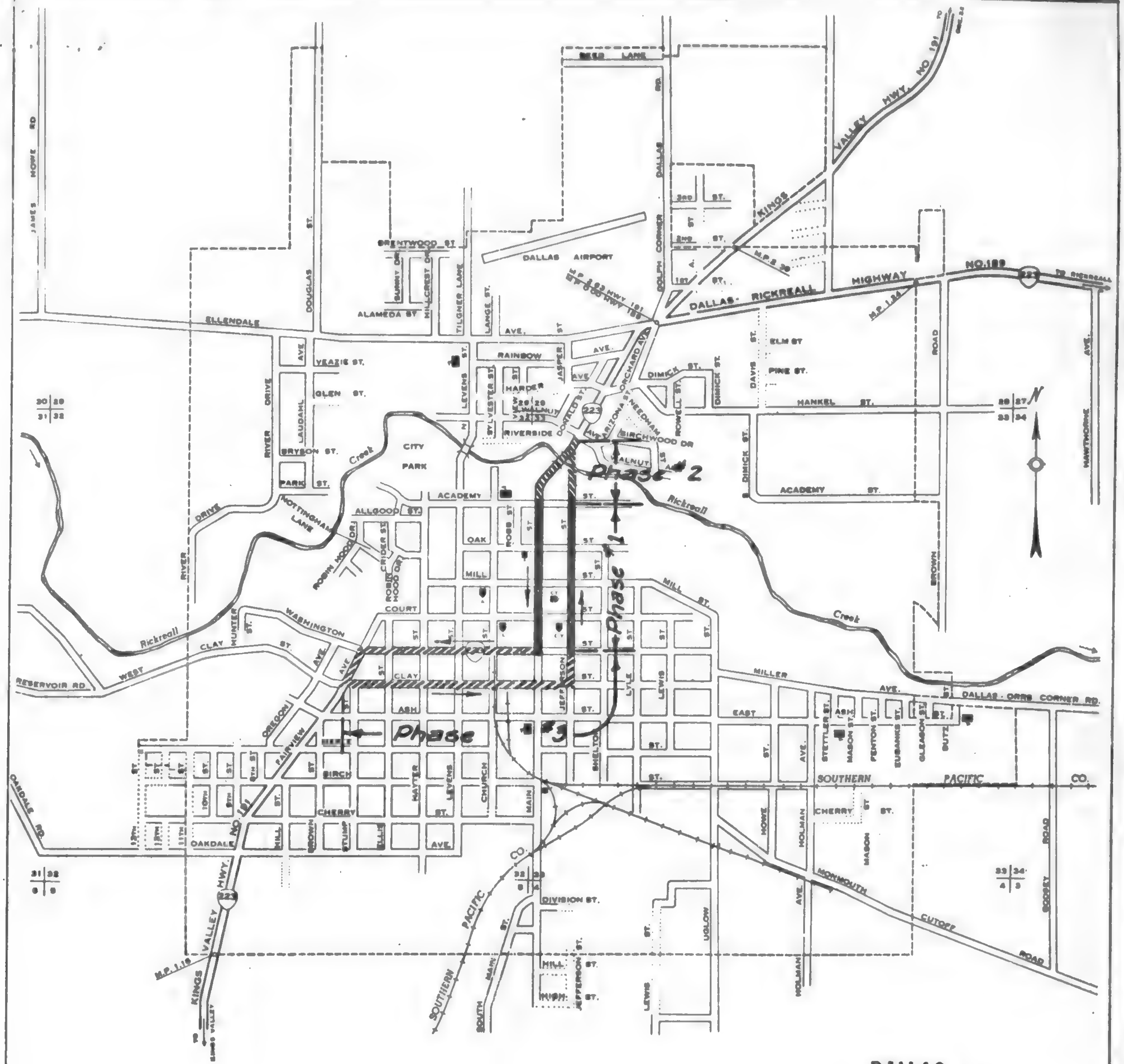
	Clay Street		Oregon 223	
Grade and Pave	$150,000		$70,000	
Structure	- - - -		- - -	
Right of Way	20,000		- - -	
Est. Const. Cost	$170,000	+	$70,000	= $240,000

The need for the couplet, particularly through the central business district, is apparent by the amount of traffic through the area; 1964 ADT is 7,100 (weighted average from Technical Report 65-1) between Academy and Court Streets; however, traffic volumes through the same general area based on field counts on an August, 1965 weekday were in the neighborhood of 10,000 ADT. It would appear that the order of development of the couplet as discussed above is valid since Phase 1, initiated now, would alleviate the traffic problem now existent.

W. H. Tebeau
W. H. Tebeau
Preliminary Studies Engineer

WHT:bjm:fp
Attach.

R-276 , Apr. '66


Phase #1
Phase #2
Phase #3
N
ELLENDALE AVE.
DALLAS AIRPORT
DALLAS - RICKREALL HIGHWAY NO. 189
KINGS VALLEY HWY. NO. 191
KINGS VALLEY HWY. NO. 191
DALLAS - ORRS CORNER RD.
MONMOUTH CUTOFF ROAD
SOUTHERN PACIFIC CO.
Rickreall Creek
CITY PARK
RESERVOIR RD
WEST CLAY ST.
WASHINGTON
COURT
MILL
OAK
ACADEMY
CLAY
ASH
BIRCH
CHERRY
OAKDALE AVE.
MILLER AVE.
EAST
JEFFERSON
MAIN
CHURCH
LEVENS
HAYTER
SHELTON
LYLE
LEWIS
DIVISION ST.
HILL ST.
HIGH ST.
UGLOW
HOLMAN AVE.
HOWE
MASON
BROWN ROAD
HAWTHORNE AVE.
GODSEY ROAD
JAMES HOWE RD
DOUGLAS ST.
RIVER DRIVE
DOLPH CORNER DALLAS RD.
RAINBOW
HANKEL ST.
DIMICK ST.
ELM ST
PINE ST.
ACADEMY ST.
BIRCHWOOD DR
WALNUT
ORCHARD AVE.
RIVERSIDE
OAKDALE RD
223

SIGNED ROUTES

INTERSTATE	0
U.S	00
ORE.	00

LEGEND

- Post Office
- School
- R. R. Depot
- Public Bldg.
  - CY - City Hall
  - CT Court House
  - A - Armory
  - L - Library
- Street open for travel.
- Street dedicated but not open.
- City Limits.

DALLAS

POLK COUNTY, OREGON

PREPARED BY THE
OREGON STATE HIGHWAY DEPARTMENT

IN COOPERATION WITH THE
U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

Population 5,244

Scale in Feet

Revised June 1964

RECEIVED
APR 15 1966
ENGINEER
COUNTY & CITY DIVISION

RECEIVED
JUN 17 1966

FOR F

127-1120

7210

P

June 16, 1966

Mr. Howard D. Brandvold
City Manager
City Hall
Dallas, Oregon 97338

Dear Mr. Brandvold:

This will acknowledge your letter of June 6 submitting a copy of Ordinance 483.542 establishing truck routes in the city of Dallas.

The State Highway Department has no objection to the proposed truck routes.

Very truly yours,

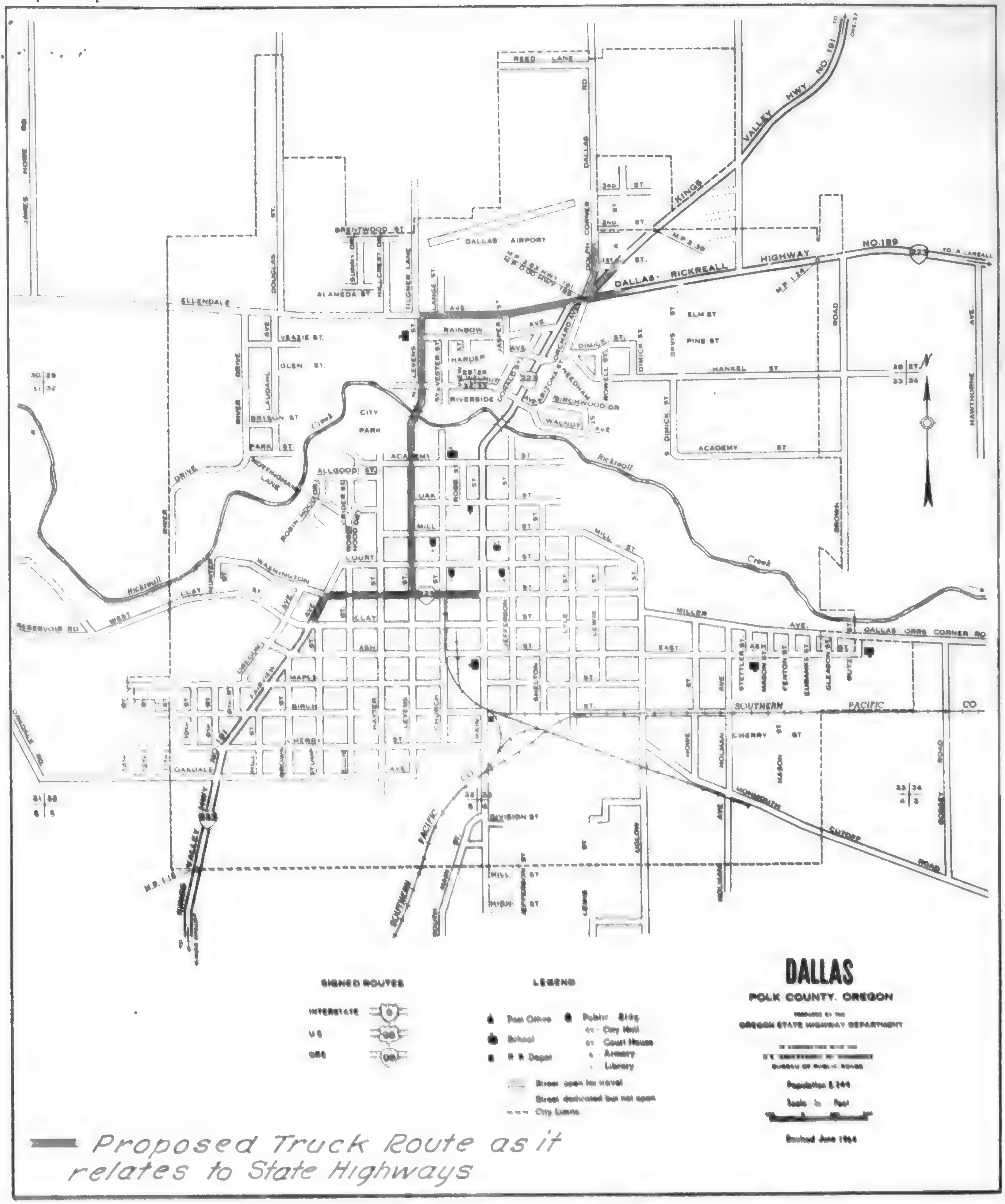
Forrest Cooper
State Highway Engineer

By

Tom Edwards
Assistant State Highway Engineer

bc Forrest Cooper
R. L. Porter
Victor D. Wolfe
F. B. Crandall

VPJ:ji jwa



REED LANE
DALLAS RD
VALLEY HWY NO. 191
KINGS
DALLAS AIRPORT
BRENTWOOD ST
ALAMEDA ST
ELLENDALE AVE
DALLAS - RICKREALL HIGHWAY NO. 189
TO RICKREALL
M.P. 2.38
M.P. 1.34
DOLPH CORNER
1st ST.
2nd ST.
3rd ST.
ELM ST
PINE ST
HANKEL ST
ACADEMY ST
DIMICK ST
BROWN ROAD
HAWTHORNE AVE.
RAINBOW AVE
VEAZIE ST.
GLEN ST.
BRYSUN ST
PARK ST
RIVERSIDE
WALNUT AVE
BIRCHWOOD DR
CITY PARK
Rickreall Creek
ACADEMY
ALLGOOD ST
OAK
MILL ST
COURT
WASHINGTON
WEST ELLAY ST
RESERVOIR RD
CLAY
ASH
MAPLE
BIRCH
CHERRY
OAKDALE
MILLER AVE
DALLAS ORRS CORNER RD
EAST
SOUTHERN PACIFIC CO
JEFFERSON
SHELTON
LEWIS
HOWE
HOLMAN AVE
MASON
MONMOUTH CUTOFF ROAD
DIVISION ST
MILL ST
HIGH ST
SOUTHERN PACIFIC
KINGS VALLEY HWY
M.P. 1.18
223
SIGNED ROUTES
INTERSTATE
U S
ORE
LEGEND
Post Office
School
R R Depot
Public Bldg.
City Hall
Court House
Armory
Library
Street open for travel
Street dedicated but not open
City Limits

DALLAS

POLK COUNTY, OREGON

PREPARED BY THE
OREGON STATE HIGHWAY DEPARTMENT

IN COOPERATION WITH THE
U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

Population 5,244

Scale in Feet

Revised June 1964

Proposed Truck Route as it relates to State Highways

483.540 Carrying dog or child on external part of motor vehicle. (1) No person shall carry a dog upon a public street or highway upon the hood, fender, running board or other external part of any automobile or truck unless the dog is protected by framework, carrier or other device sufficient to keep it from falling from the vehicle.

(2) No person shall carry any child upon a public street or highway upon the hood, fender, running board or other external part of any motor vehicle.

483.542 Designation of streets, roads or highways as truck routes. The State Highway Commission, with respect to state highways outside the corporate limits of incorporated cities or towns, and the county courts or boards of county commissioners, with respect to county roads outside the corporate limits of incorporated cities or towns, and the municipal authorities of any incorporated city or town, with respect to streets, roads or highways within the limits of an incorporated city or town, may designate any street, road or highway or section thereof as a truck route and may prohibit the operation of trucks, machinery or any other large or heavy vehicles upon any street, road or highway which serves the same route or area served by the said truck route. The municipal authorities of an incorporated city or town shall not designate as a truck route, or prohibit the operation of any vehicle upon, any street, road or highway under the jurisdiction of the State Highway Commission or any county, without the written consent of the highway commission or the county court or board of county commissioners, as the case may be.
[1953 c.257 §1]

483.544 Truck route designation to be by order, resolution or ordinance; erecting appropriate signs; when prohibitions are effective; violation prohibited. The State Highway Commission, any county court or board of county commissioners or any city council making any designation, or prohibiting any operation, as authorized by ORS 483.542, shall do so by a proper order, resolution or ordinance, and shall erect and maintain a sign giving [illegible] of the order, resolution or ordinance [illegible] way of [illegible] and at such other places [illegible] may be necessary to inform the public, and the designation or prohibitions shall be effective when the signs giving notice thereof are erected, and no person shall operate any vehicle or combination of vehicles in violation thereof.
[1953 c.257 §2]

483.546 to 483.600 [Reserved for expansion]

ACCIDENTS

483.602 Duties of drivers and witnesses at accidents. (1) The driver of any vehicle involved in an accident which results in injury or death to any person or causes damage to a vehicle which is driven or attended by any person, immediately shall stop such vehicle at the scene of the accident, or as close thereto as possible, and shall remain at the scene of the accident until he has fulfilled the requirements of subsection (2) of this section. Every such stop shall be made without obstructing traffic more than is necessary.

(2) The drivers of any vehicles involved in any accident resulting in injury or death to any person or damage to any such vehicles shall:

(a) Give to the other driver or surviving passenger, or any person not a passenger injured as a result of such accident, his name, address and the registration number of the vehicle which he is driving, and the name and address of any other occupants of such vehicle.

(b) Upon request and if available, exhibit and give the number of his operator's or chauffeur's license to the persons injured, or to the occupant of or person attending any vehicle damaged.

(c) Render to any person injured in such accident reasonable assistance, including the conveying or the making of arrangements for the conveying of such person to a physician, surgeon or hospital for medical or surgical treatment, if it is apparent that such treatment is necessary or if such conveying is requested by any injured person.

(3) Any witness to the accident shall furnish to the driver or occupant of such vehicles, or injured person, his true name and address.
[Amended by 1953 c.7 §3]

[illegible] Driver's duties when he collides [illegible] vehicle or other property. [illegible] vehicle which collides [illegible] is unattended imme- [illegible]

(2) Locate and notify the operator or

FORM E-30X—90M—2-66 SP*23500-734

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
June 14, 1966

SUBJECT:
Truck Route
City of Dallas

To:
Mr. F. B. Crandall
Traffic Engineer
Department

ATTENTION: Val Johnson

As per your note of June 8, I have had an investigation made regarding the truck route that the city of Dallas is proposing.

That portion which effects truck traffic on State Highways is the routing on Levens Street and on Ellendale Avenue. Traffic using this route would bypass the business district. The roadside culture along this bypass is fairly well built up. The street width on Levens Street varies but is adequate for truck traffic. The width on Ellendale Avenue is only 20 feet wide, but there are four to five foot gravel shoulders. This routing would take traffic past the Lyle School and the city swimming pool. There is a wide turning radius at the intersection of Ellendale and Levens Street. Westbound traffic on Ellendale must stop at this intersection. There are 25 foot radii in the two northerly quadrants at the intersection of Levens Street and Washington Street. With the 40 foot wide streets at this point, this is adequate for large trucks. The intersection of Oregon 223, Ellendale Avenue, and the Dolph Corner Dallas Road is a poor intersection, but I doubt if the truck routing would have much effect on it.

Although the proposed routing will route trucks past a school and through a residential area, and although Ellendale Avenue is slightly narrow, it is felt that the proposed routing would be better than to route trucks through the business district. I might add that signs are now in place routing trucks over the proposed route. This office recommends that the Highway Commission approve the proposed truck route.

R. D. Asburry
R. D. Asburry
Division Engineer

RDT:bjw

RECEIV D
JUN 7 1966
ENGINEER
COUNTY & CITY DIVISION

ORDINANCE NO. 870

An Ordinance establishing a truck route for the use of certain trucks upon entering or leaving the City of Dallas; providing a penalty for the violation thereof; and repealing ordinances numbered 638 and 786.

THE CITY OF DALLAS DOES ORDAIN AS FOLLOWS:

Section 1. All trucks, as classified in Section 2 hereof, upon entering or leaving the City of Dallas shall use the following truck routes, to-wit:

(a) All trucks entering the City of Dallas from the North via Oregon State Highway No. 223 or the Old Coast Highway and all trucks entering the City of Dallas from the East via Salem-Dallas Highway shall proceed Westerly on Ellendale Avenue to its point of intersection with Levens Street; thence South on Levens Street to Washington Street; thence East or West on Washington Street, as the case may be, and turning off of Washington Street to the place or places of destination.

(b) All trucks entering the City of Dallas from the East on Miller Avenue or on the New Monmouth Cutoff shall proceed to Uglow Avenue; thence South on Uglow Avenue and turning off to the place or places of destination or then North on Uglow Avenue to Washington Street; thence West on Washington Street and turning off of Washington Street to the place or places of destination.

(c) All trucks entering the City of Dallas from the South on Oregon State Highway No. 223 shall proceed Northerly on Fairview Avenue to its point of intersection with Washington Street; thence East on Washington Street and turning off of Washington Street to the place or places of destination.

(d) All trucks leaving the City of Dallas shall retrace one of the above designated routes.

Section 2. All truck tractors, and truck tractors with a trailer, semi-trailer, or pull trailer attached or in any manner carried on said truck tractor as those vehicles are defined by the Motor Vehicle Code of the State of Oregon and any truck having a load capacity of one and one-half tons or more shall use the established truck route as provided in Section 1 of this ordinance without regard to whether said truck is loaded or empty.

Section 3. Any person violating any of the provisions of this ordinance shall be punished upon conviction thereof by a fine of not more than $500.00 or by imprisonment in the City Jail for not more than ten days or by both such fine and imprisonment in the discretion of the Court.

Section 4. Ordinances numbered 638 and 786 of the City of Dallas are hereby repealed.

Read for the first time, September 7, 1965.

Read for the second time and placed on final passage, September 20, 1965.

Passed by the City Council, September 20, 1965.

Approved by the Mayor, September 20, 1965.

R L Van Den Bosch
Mayor

ATTEST:

City Manager.

RECEIVED
APR 21 1966
FOR FILING

127-1120
7210

April 21, 1966

648

Mr. R. Carlson
1012 Clay Street
Dallas, Oregon 97338

Dear Mr. Carlson:

In reply to your letter of April 4 regarding the possibility of bypassing Dallas, I would inform you as follows:

At the present time the State Highway Commission has no projected construction in Dallas. There is some discussion with City officials of implementing a one-way couplet in the main part of Dallas which would largely use existing streets and call for a minimum expenditure of funds. It is impossible to say at this time whether such a one-way couplet will be activated.

Our present traffic studies would indicate that too few people wish to bypass Dallas to justify the necessary expenditure to bypass this community. There is the possibility as traffic builds up that such a proposition may have to be considered, but I am sure this will be many years hence.

The above will give you our thinking on this matter, and I wish to thank you for your interest in highway matters.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Forrest Cooper
R. L. Porter
Victor D. WolfeBy
F. D. Morgan
R. D. Asburry

F. B. Klaboe
Assistant State Highway Engineer

DJB:rw srb

3181

APR 3 1966

APR 5 66

REFERRED TO
admin
BY SECRETARY

Dallas, Oregon
April,4,1966

Oregon State Highway Department
State Highway Building
Salem, Oregon. 97310

KLABOE

Please answer

Dear Sir:

I have one question in regard to the State Highway project in Dallas.

Why does the State Highway have to go right through Dallas, why shouldn't the State Highway be built around the town?

Other towns have had the State Highways built around them, why not Dallas??

Yours Truly

R. Carlson
1012 Clay Street
Dallas, Oregon 97338

Routing
Morgan
Decker
Bond
Barbee
Walker
Glenn
Swan
Peace
Morelock
Trout
Scott
Wills
Litchfield
Olson

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APR 5 1966
CONSTRUCTION
DIVISION

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APR 5 1966
OFFICE OF
STATE HIGHWAY ENGINEER

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APR 5 - 1966
OREGON
STATE HIGHWAY COMMISSION

Barber

RECEIVED [illegible]

OREGON STATE HIGHWAY DEPARTMENT

TO: F. B. Klaboe

FROM: H. S. Cox

NOTED
F. B. KLABOE

SUBJECT: [illegible] 576

DATE: 3-17-66 Dallas

576

Friday [illegible] Bon Smith & Mr Chapman of [illegible] [illegible] my office regarding the proposed Couplet in that City. I advised these gentlemen that [illegible] to go along until [illegible] where a 75-25 [illegible] table [illegible].

[illegible] I am asking Mr W.H. Tebeau [illegible] estimates to completely implement the [illegible] [illegible]

(SIGNATURE)

PLEASE REPLY HERE

copies
REFERRED TO
Edwards - Tebeau
By Asst. State Hwy. Engr.
3-22-65

RECEIVED
MAR 21 1966
OFFICE OF
STATE HIGHWAY ENGINEER

CC: ______ (SIGNATURE) ______ (DATE)

1. SENDER SHOULD DETACH SHEET NO. 4 AND HOLD UNTIL REPLY IS RECEIVED, LEAVING 1st 2 CARBONS INTACT.
2. ADDRESSEE SHOULD REPLY, DETACHING SHEETS, RETAINING SHEET NO. 1 AND RETURNING SHEET NO. 3 TO SENDER.
3. SHEET NO. 2 MAY BE USED AS INFORMATIONAL CARBON COPY OR DESTROYED.

1

CITY OF DALLAS OREGON

P. O. Box 67 97338
Phone 623-2338

RECEIVED
FEB 11 1966
ENGINEER
& CITY DIVISION

February 10, 1966

Mr. H. S. Cox
County and City Engineer
Oregon State Highway Department
Salem, Oregon

Dear Mr. Cox:

Thank you for your letter of January 11, 1966, suggesting a one-way couplet for Dallas.

Your proposal was presented to the City Council. After considerable discussion and several meetings, we would like to make the following suggestions which would slightly modify your plan. A map is attached showing our proposal.

(1) Initiate a plan immediately, as shown in red, to make Main Street one-way south bound between Academy and Washington; Jefferson one-way north bound between Washington and Academy; and Academy one-way west bound between Jefferson and Main.

(2) Request the State Highway Department to prepare detail plans and cost estimates to build a bridge across Rickreall Creek at the northerly terminus of Jefferson Street. If the City share of the cost of said bridge can be financed within the framework of our financial ability, we would participate in the cost to extend the one-way couplet to a point south of Walnut Street on the North side of Rickreall Creek as shown in green on the attached map.

The City Council does not think the present traffic volume on Washington Street would warrant a one-way couplet at this time (5900 cars per day.) Your proposal to make Court Street one-way west would entail acquiring some expensive right-of-way at the westerly end of the couplet to make the tie between Court and Washington. There is presently only a 20 foot right-of-way and some rather nice buildings would have to be acquired. When the traffic volume on Washington Street reaches the point that an east-west one-way couplet should be further considered, we feel that Washington and Clay Streets would make a better system.

We understand, as explained in your letter, that the cost involved in making changes in the traffic pattern on these streets will be on the basis of 25 percent City participation and 75 percent State participation.

I shall anxiously await your approval of our plan and a cost estimate to extend Jefferson Street to the North across Rickreall Creek.

Yours very truly,

Howard Brandvold

Howard D. Brandvold
City Manager

HDB:em
1 Encl.

2-17-66

Copies to Klaboe
Edwards
Crandall
Morgan.
Wolfe.
Asburry.

FORM E-30 50M 12-63 84676

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

11-8
11-12

Salem, Oregon
October 19, 1965

SUBJECT:

To: Mr. F. B. Klaboe
Assistant State Highway Engineer

The City of Dallas is having traffic problems and has requested study be made of same by our Traffic Engineering Division. Such a study has been completed and, as you know, discussed in Staff this date. I would appreciate having you assign Mr. Cox to discuss this matter with the City of Dallas.

I attach a plat showing volumes existing in August, 1965 and have shown shaded in green a proposed one-way couplet which is a solution to the problem. I call your attention to the fact that Main Street in Dallas is quite wide but that with the angle parking which the City is insistent upon retaining, the street is restricted to two lanes. If the parking were changed to parallel, the couplet would not be immediately necessary.

I would recommend that if the City wishes to proceed on a 25-75 participation plan the additional streets be taken into the highway system.

Tom Edwards
Assistant State Highway Engineer

TE:jwa

Attachment

cc Forrest Cooper
R. L. Porter
Victor D. Wolfe
F. B. Crandall
R. D. Asburry

NOTED
F. B. KLABOE

Cox handling - will meet with City - Bkgo 11-12

Ref'd to Cox 10-20-65 w/attachs. [illegible]
Note: Pl discuss

FORM E-30X—50M—7-64 SP*6230-734

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon 97310
October 7, 1965

To: MEMO TO FILE

SUBJECT: Meeting with Mr. Howard Brandvold re. One Way Couplet in Dallas

I did this date meet with Mr. Howard Brandvold to discuss the results of the recent traffic count survey in Dallas and consideration of two alternate plans for one-way couplet. Plan "A" envisions a couplet utilizing Main southbound and Jefferson running northbound between Academy Street on the north and Maple Street on the south. Plan "B" utilizes Main Street northbound and Church Street southbound between Oak Street on the north and Burch Street on the south.

Mr. Brandvold Concurred in my thought that Plan "A" was the preferable one for reasons as follows:

1. Plan "A" gives better traffic volume distribution on Church, Main and Jefferson Streets, ~~but~~ with Church Street presently carrying twice as much volume (2,200) as compared to Jefferson Street (1,100).

2. A crossover utilizing Academy Street is to be preferred to the "B" Plan utilizing Oak Street as a crossover because it is a low volume, practically dead-end street as compared to Oak Street.

3. In respect to above, on the couplet crossover streets, it is always desirable to make these one block sections one way and also to prohibit curb parking. These restrictions can be achieved much easier when the street involved is a low-volume, non-arterial street and one wherein the parking prohibition will not seriously discommode abutting properties.

4. With Plan "A" the transition from two way to one way at the intersection of Main and Academy would be considerably better than would be the case of Plan "B" with the transition at the intersection of Main and Oak Streets. This is for the reason that heavy and relatively high-speed traffic southbound on Main and entering the business section would proceed straight through as against having to make a heavy right turn in the case of Plan "B"

On Plan "A" in respect to the south end, Mr. Brandvold thought possibly Ash Street would be a better crossover than Maple. This for the reason that Maple Street is somewhat narrow. I believe it is a 30' curb to curb section, whereas Ash Street is wider. Also, on any couplet arrangement it is desirable to flatten certain of the corner curb returns, in which regard that at the southeast corner of Main and Maple there is a large Oak tree which would have to be removed to accomplish flattening of curb return, and there might be some static from the beauty doctors. At the Ash Street corner there is an English Walnut tree which would need to be removed; however, I think the tree is in pretty bad shape and should come out anyway. I am still of the belief that Maple Street would be the preferable crossover, not withstanding the less desirable curb-to-curb width and the tree complication. It is in effect an unused, dead-end street as compared to Ash Street which is a crosstown arterial carrying some thousand cars per day.

I indicated to Mr. Brandvold that we would transmit our findings, etc., and that with this he could discuss it with City Council. He asked if I would be available at such Council meeting for discussion, answering questions, and I told him that I would be glad to oblige when it would suit his convenience.

F. B. Crandall
Traffic Engineer

FBC:sf

cc: Tom Edwards ✓

RECEIVED
AUG 9 - 1965

FOR FILING
127-1120
7210

18

August 9, 1965

3786

Mr. Howard D. Brandvold
City Manager
P. O. Box 67
Dallas, Oregon

Dear Mr. Brandvold:

We have given considerable thought and study to your proposal to make Main Street one-way southbound between Oak and Washington Streets in the city of Dallas.

It is with extreme reluctance that I advise you that we cannot concur in this request. We are aware that the traffic load is heavy, with the operation of the street as it now exists, and subjected to further disturbance by angle parking. Our traffic people advise that increased difficulties would occur should this short three-block section be revised, in that increased congestion would occur at the intersections of Oak and Washington Streets, both on Main and Jefferson. The use of Church Street for northbound traffic would create an unbearable situation at the intersections of Washington and Church and Oak and Main.

We would suggest as an alternate that the City consider the extension of Jefferson Street northerly across Rickreall Creek to a connection with Main and when this is completed a north-south couplet of Jefferson and Main be activated together with an east-west couplet on Washington and Court. This would provide the desired relief on Main Street.

Very truly yours,

Forrest Cooper
State Highway Engineer

bc Forrest Cooper
R. L. Porter
Victor D. Wolfe
F. B. Crandall

By

Tom Edwards
Assistant State Highway Engineer

TE:jwa

CITY OF DALLAS OREGON

P. O. Box 67 97338
Phone 623-2338

July 20, 1965

Mr. Tom Edwards
Assistant Highway Engineer
Oregon State Highway Department
State Highway Building
Salem, Oregon

Dear Mr. Edwards:

At the meeting of the Dallas City Council on Monday, July 19, 1965 a motion was unanimously approved to request permission of the State Highway Department to make Main Street one- way southbound between Oak and Washington Streets. Northbound traffic through the center of town would then be channeled to either Jefferson Street or Church Street both of which are wide two-way streets.

Main Street in Dallas is a part of the Kings Valley Highway to our city. We respectfully request your approval to change the flow of traffic on this three block section of the highway. We believe the change will relieve congestion and also spread the increased traffic flow to other wide adjacent streets.

If you have any questions I will be most happy to meet with you at your convenience. Your early consideration and approval will be appreciated.

Yours very truly,

Howard D. Brandvold
City Manager

HDB:m

Crandall
check with
Hunter
Rld WD
1 wwc

RECEIVED
JUL 22 1965
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
JUL 23 1965
TRAFFIC ENGINEERING

33-4213 Mill Creek Bridge, N. of Warm 1969
Springs, Warm Springs Hwy.
#7211 (Maintenance painting)

RECEIVED
OCT 14 1969
FOR FILING
33-4213
7211

October 14, 1969

U. S. Fidelity & Guaranty Company
Portland Office
201 Oregon Bank Building
Portland, Oregon 97204

Gentlemen:

Contract No. 7211 awarded to A. H. Barbour and Son, Inc., for maintenance painting of the Mill Creek Bridge on the Warm Springs Highway in Wasco County was completed on July 31, 1969, and accepted by the Highway Commission on October 13, 1969.

Final payment in the amount of $900.26 will be released to the contractor after October 21, 1969. The total contract amount is $17,313.41 including $36.41 for work performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fkm

cc A. H. Barbour & Son, Inc.
2828 N. E. Alberta Street
Portland, Oregon 97211

L. W. Rulien
Frank Morgan
V. E. Skoog
Attn: John Herr

RECEIVED
OCT 14 1969
FOR FILING

33-4213
7211

October 13, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed July 31, 1969, on Contract No. 7211. The contract was with A. H. Barbour & Son, Inc., and was for maintenance painting on the Mill Creek Bridge Section of the Warm Springs Highway in Wasco County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective October 13, 1969, and that you concur in this procedure at the Commission meeting on November 18.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
Ivan Merchant
V. E. Skoog
F. D. Morgan
F. B. Klaboe
V. D. Wolfe
L. W. Rulien

srb sr

RECEIVED
SEP 12 1969
FOR FILING

33-4213

7211

September 10, 1969

Oregon State Highway Commission

Gentlemen:

An overrun in the project authorization for the Mill Creek Bridge (Warm Springs Highway) maintenance painting is apparent. This is Contract No. 7211 with A. H. Barbour & Son, Inc.

The original authorization was $19,896.66 and it now appears that the final cost will be $23,527, an increase of 18.25 percent. The cause for the overrun is engineering expense. On small isolated contracts such as this, with no engineering crews in the immediate vicinity, it is difficult to keep the engineering costs within the allowable percentage.

This matter will be on the agenda for your consideration at the September 30 meeting and I recommend your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
Victor D. Wolfe
Ivan Merchant
V. E. Skoog
F. D. Morgan
L. W. Rulien

CAG:dh sr

Form E-372 (Rev. 10-66)

OREGON STATE HIGHWAY DEPARTMENT

Expected Overrun of Project Authorization

Project Mill Creek Bridge Date July 17, 1969

Highway Warm Springs Contract No. 7811

County Wasco Kind of Work Maintenance Painting Contractor A.L. Barbour & Son, Inc.

	Authorized	Estimated
Contract Amount	$17,277.00	$17,277.00
Anticipated Items Flagging	100.00	0.00
Contingency (4½%)	781.96	0.00
Engineering	1,737.70	6,250.00
Credits	0.00	0.00
PROJECT COST	19,896.66	23,527.00
NET INCREASE $	3,630.34	18.25%

MAJOR OVERRUNS AND UNDERRUNS (Describe Briefly)

(Indicate whether contract (C), anticipated (A), or unanticipated (U). (List all unanticipated items)	Expected Amount	Net Change
Flagging (C) (A)	0.00	-100.00
Contingency	0.00	-781.96
Engineering	6,250.00	+4,512.30

APPROVED BY
STATE HIGHWAY COMMISSION
DATE 9-30-69

Principal reasons for overruns (Continue on reverse side): Contractor had a small (3 man) crew working since April which necessitated having an inspector at the jobsite on a full time basis. Inclement weather, slow progress, per diem, overtime and travelling expenses have caused the inspection and engineering expenses to overrun considerably.

INSTRUCTIONS: A report on this form is to be submitted if and when it becomes evident that the project cost will exceed the original project authorization by more than five per cent and again if and when it becomes evident that the project cost will exceed by more than five per cent a subsequently approved increased project authorization. Submit five copies to Salem. After having been noted by the Deputy or Assistant State Highway Engineer, one copy will be sent to the Division Engineer and one copy to the Resident Engineer.

Submitted by E. Rodriguez Resident Engineer
E. Rodriguez

Noted by ______ Construction or Bridge Engineer

Confirmed by ______ Division Engineer

Noted by ______ Deputy or State Highway Engineer

SP*23769-734

RECEIVED
MAY 13 1969

FOR FILE

33-4213
7211

May 12, 1969

A. H. Barbour & Son, Inc.
2828 N.E. Alberta Street
Portland, Oregon 97211

Gentlemen:

We enclose for your files a fully executed copy of the following described contract which was awarded to you by the State Highway Commission:

Contract No. 7211 for maintenance painting of the Mill Creek Bridge on the Warm Springs Highway in Wasco County.

A copy of this contract is also being sent to the surety on your performance bond.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr
Enclosure

cc: United States Fidelity & Guaranty Co.
Elliott, Powell & Baden
D. J. Barbee
F. D. Morgan
I. D. Merchant
E. S. Hunter
Enrique Rodriques
L. W. Rulien

General Files

A. H. Barbour & Son Inc.
INDUSTRIAL PAINTING CONTRACTORS
OVER 50 YEARS OF SERVICE
2828 E. ALBERTA - PORTLAND, OREGON 97211 - PHONE 282-2251

MAY 8 1969
FOR FILING

33-4313
7211

April 7, 1969

Oregon State Highway Dept.
Highway Building
Salem, Oregon 97310

Attention: Mr. Floyd Query, Secretary

Gentlemen:

We are returning herewith two copies of Contract No. 7211, painting Mill Creek Bridge in Wasco County, which have been executed on behalf of our firm, and performance bond which has been executed by surety and principal.

We are enclosing, per our conversation of last week, a certified copy of corporate meeting minutes authorizing signature of Secretary-Treasurer on all contracts and other documents.

If anything further is required, please let us know.

Cordially,

A. H. BARBOUR & SON, INC.

Louise Birkenfeld
Louise Birkenfeld
Secretary-Treasurer

LB:ac
encl

RECEIVED
TED
FLOYD QUERY

AGC
PAINTING AND DECORATING CONTRACTORS OF AMERICA

A special [illegible] corporation of [illegible] Barbour, Jr., [illegible] Barbour, Jr. [illegible] acted as secretary.

[illegible] the [illegible] resolution was unanimously [illegible]:

Resolved, [illegible] the president [illegible] the secretary of this corporation be [illegible] contracts and other [illegible] corporation.

There [illegible] further [illegible], the meeting was adjourned.

Louise Birkenfeld
Louise Birkenfeld, Secretary

[illegible] A. H. Barbour & Son, Inc., hereby approve [illegible] the special meeting of the Board of Directors [illegible] waive any notice required for [illegible] meeting.

A. H. [illegible], Jr.

Louise Birkenfeld
Louise Birkenfeld

STATE OF OREGON
SS
COUNTY OF MULTNOMAH

I hereby Certify that the within is a full and true copy of the original minutes of corporate meeting as recorded in A. H. Barbour & Son, Inc. corporate record book.

COP

Louise Birkenfeld
Louise Birkenfeld
Secretary-Treasurer

33-3312 Memaloose State Park, W. of 1969
The Dalles, Columbia R. Hwy.
#7212 (Overnight camp area)

RR-645

RECEIVED
JUN 22 1970
FOR FILING

Claim 4533

FILED
JUN 19 1970
CLAY MYERS
SECRETARY OF STATE

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

June 17, 1970

Loff Electric Company
156 Front Street, N.E.
Salem, Oregon 97301

Attention: George Ritter
Credit Manager

Gentlemen:

This is to acknowledge receipt of your letter of June 15 notifying us that Western Electrical Construction (Subcontractor) owes you for material in the amount of $4,150.12. This appears to be in reference to the Blickle Company Contract No. 7212 for an overnight camp area in Memaloose State Park on the Columbia River Highway in Wasco County.

The General Insurance Company of America through Jewett, Barton, Leavy & Kern, Morgan Building, Portland, furnished the performance bond on this contract. We will advise them of the receipt of your claim letter and we will also forward it to the Secretary of State for filing.

Please advise this office when your claim has been paid.

Very truly yours,

NOTED ON CARD
6-22-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc Blickle Company
General Ins. Co. of America
Jewett, Barton, Leavy & Kern
bc Commission
Secretary of State - Please acknowledge receipt of this claim on the enclosed copy of this letter.

NOTED
C. W. HEAD

EOFF
ELECTRIC CO.

ESTABLISHED 1919

AREA CODE 503
PHONE 222-9411 · 509 N.W. TENTH AVE. · PORTLAND, OREGON 97208
PHONE 342-1277 · 556 CHARNELTON ST. · EUGENE, OREGON 97401
PHONE 363-9251 · 156 FRONT ST. NE · SALEM, OREGON 97301
AREA CODE 206
PHONE 694-7505 · 806 HARNEY ST. · VANCOUVER, WASH. 98660

Registered Mail

Salem, Oregon
June 15, 1970

State of Oregon
Highway Department
Salem, Oregon 97310

Attention: Cecil Head

Dear Sir:

This is to notify your office of our claim for materials furnished by us and installed on the Memaloos State Park job near The Dalles. The contract for the work is with Blickle Company, Portland; Sub-contractor with Western Electrical Construction, Portland.

Western Electrical Construction purchased material totalling $4,150.12, amount which is owing to us as unpaid. The Blickle Company has been notified and is cooperating with us and basically approved the dollar amount given by us.

This information is for your records.

Yours very truly,

EOFF ELECTRIC COMPANY

Georg Ritter

George Ritter
Credit Manager

GR/cc

RECEIVED
JUN 16 1970
OREGON
STATE HIGHWAY COMMISSION

WHOLESALE ELECTRICAL SUPPLIES

RECEIVED
APR 13 1970

FOR FILING

33-3312
7212

April 13, 1970

General Insurance Co. of America
Portland Service Office
520 S.W. 6th
Portland, Oregon 97204

Gentlemen:

A post-final payment for $146.99 will be made to Blickle Company on Contract No. 7212 for an overnight camp area in Memaloose State Park on the Columbia River Highway in Wasco County as soon as the warrant is prepared.

The total amount paid on this contract will be $276,915.40 including the post-final payment. No force account work was performed on this contract.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

aj

cc Blickle Company
2900 N.E. Stafford St.
Portland, Oregon 97211

bc Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Herr
J. F. Putnam

RECEIVED
APR 9 - 1970
FOR FILING

33-3212

7212

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

April 8, 1970

Blickle Co.
General Contractors
P.O. Box 11234
Portland, Oregon 97211

RE: Union Pacific Railroad
Memalose State Park
Contract No. 7212

Gentlemen:

Attached are two copies of the Union Pacific Railroad bill requested in your letter of March 21, 1970.

In reconcilling this bill, Mr. Josh Sawyer, State Resident Engineer has determined the first four items to be preliminary engineering. These items total $146.99, which is being paid to you on a Post Final Estimate. This will reduce your share of the railroad costs from $766.17 to $619.18.

Very truly yours,

V. E. Skoog
Controller

By:
Jess Jones
Utility Auditor

JJ:md
Attachments

C

RECEIVED
MAR 20 1970
FOR FILING

33-3312

7212

March 20, 1970

General Insurance Company of America
Portland Service Office
520 S. W. 6th
Portland, Oregon 97204

Gentlemen:

Contract No. 7212 awarded to Blickle Company for an overnight camp area in Memaloose State Park on the Columbia River Highway in Wasco County was completed on November 12, 1969, and accepted by the Highway Commission on March 19, 1970.

Final payment in the amount of $13,291.88 will be released to the contractor after March 27, 1970. The total contract amount is $276,768.41 and no work was performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

sj

cc Blickle Company
2900 N.E. Stafford St.
Portland, Oregon 97211

bc Frank Morgan
Ivan Merchant
V. E. Skoog
Attn: John Herr
J. F. Putnam

RECEIVED
MAR 20 1970
FOR FILING

33-3312

7212

March 19, 1970

Oregon State Highway Commission

Gentlemen:

Work was completed November 12, 1969, on Contract No. 7212. The contract was with Blickle Company and was for an overnight camp area on the Memaloose State Park Section of the Columbia River Highway in Wasco County.

As the contractor has completed all work according to specifications, I recommend that you accept the project effective March 19, 1970, and that you concur in this procedure at the Commission meeting on April 21.

It is assumed that if you have no objections to this action and you do not advise me to the contrary, I may consider the matter has your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
F. B. Klaboe
Victor D. Wolfe
V. E. Skoog
Ivan Merchant
F. D. Morgan
L. H. Young
J. F. Putnam

srb sr

C

RECEIVED
MAR 5 - 1970
FOR FILING

33-3312
7212

#9

February 10, 1970

Hickle Company
2900 N. E. Stafford Street
Portland, Oregon 97211

Gentlemen:

The State Highway Commission at its meeting on February 3, 1970, granted an increase of six calendar workdays on Contract No. 7212 for an overnight camp area in Memaloose State Park in Wasco County, thereby eliminating all liquidated damages.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fbm
cc F. D. Morgan
V. E. Skoog
J. F. Putnam
J. S. Sawyer

RECEIVED
JAN 28 1970
FOR FILING

33-3312

7212

January 28, 1970

Oregon State Highway Commission

Gentlemen:

Request for Extension of Time
No. 9
February 3, 1970 meeting

Blickle Company, contractor on the Memaloose State Park Section of the Columbia River Highway in Wasco County, Contract No. 7212, requests an increase of six calendar workdays. The contractor's request is based on a delay in obtaining a permit from the railroad plus overrun in the contract bid items.

The special provisions prevented the contractor from entering on railroad property only until after August 15, 1969. Although negotiations with the railroad were started long before this contract was awarded, the railroad did not approve the necessary permits for water and power line crossings until August 25 and October 6, 1969. This crossing work was required in connection with a pump installation across the railroad on the river. An extension of 10 calendar workdays could be justified for this delay. The overrun of total contract items was very minor.

I recommend that the calendar workdays be increased by six which will eliminate all liquidated damages which have been assessed in the amount of $600.

This matter will be on the agenda for your consideration at the February 3 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
F. B. Klaboe
V. D. Wolfe V. H. Skoog F. D. Morgan J. F. Putnam
JAB:DES:fw sr

FORM E-30 (12-67)

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
January 23, 1970

SUBJECT: Extension of Time
Memaloose State Park
Columbia River Highway
Contract No. 7212

To:

Mr. F. B. Klaboe
Assistant State Highway Engineer
BUILDING

We have received from Blickle Company, contractor on the subject contract, the attached request for an increase of 6 calendar workdays. The contractor's request is based on a delay in obtaining a permit from the railroad for an electrical crossing, approval from the railroad for access to a borrow area, plus an overrun in the contract bid items.

Negotiations with the railroad for a crossing permit for power and water lines were started by the Highway Division on May 22, 1967. This contract was awarded April 9, 1969. The special provisions indicated that the contractor could not enter railroad property until after August 15, 1969. In fact, however, the railroad did not approve the water crossing permit until August 25 and the permit for the power line until October 6, 1969. The power and water line work was necessary for the pump installation on the river as provided in the contract plans. The power line work and pump testing (which required power) was some of the last contract work performed and was done on penalty time. We believe an extension of 6 calendar workdays is more than justified.

The contractor's request based on overrun of the total contract items is not valid in this case since the actual overrun amounted to only one percent of the original amount.

The contract allowed 200 calendar workdays and when the project was completed on November 12, 1969, 206 calendar workdays had been charged. These 6 days over the amount allowed represent $600 in liquidated damages. Based on the delay in obtaining permission from the railroad for the power and water line crossings, we recommend that the calendar workdays be increased by 6 which will eliminate all liquidated damages.

This is a State project. A rough draft of a letter to the Highway Commission is attached.

RECEIVED
JAN 26 1970
OFFICE OF
STATE HIGHWAY ENGINEER

F. D. Morgan
Construction Engineer

By

John A. Bond
Construction Administration Engineer

JAB/DES:fw
Attachment
cc V. L. Gallagher

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request

for

Increase in Number of Calendar Workdays

to

Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 7212 Contractor Blickle Company

Highway Columbia River

Section Memaloose State Park

Kind of Work Overnight Camp Area

It is recommended that the request for increase in the number of workdays within which to complete said contract be ~~DENIED~~ GRANTED. The reasons for such recommendation are as follows:

Delay caused by lack of power and water crossing permits from the railroad justifies the extension.

Recommended for Approval:

J. F. Putnam
J. F. Putnam Division Engineer

by Construction Engineer ~~or Bridge Engineer~~

~~Assistant~~ State Highway Engineer

Contract No. 7212

Project designation State (State-Federal)

Date awarded April 9, 1969

Work started April 29, 1969

Per cent completed 100% Nov. 12, 1969 (Date)

No. of Calendar Workdays Allowed 200

No. of Calendar Workdays Used 206

No. of Added Calendar Workdays Requested 6

SP*8290-734

B-320 (Rev.)—5M--9-64

OREGON STATE HIGHWAY COMMISSION

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon 97310

Date January 7, 1970

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from 200 days to 206 days, within which to complete our Contract No. 7212, without the assessment of liquidated damages. The said contract is described as follows:

Overnight Camp Area at Memaloose State Park, Columbia River Highway in Wasco County

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows:

1. We were delayed 42 days (Aug 25 to Oct 6) in starting the electrical work over the railroad and from the railroad to the river because the agreement between U.P.Railroad Co and OSHD had not been signed up. Much other work depended on completion of this work.
2. We were delayed 7 days (july 7 to July 14)in starting the embankment from borrow waiting for approval from U.P.Railroad Co. to cross their property to the borrow area.
3. Additional time should be allowed for doing the work in excess of the contract amount.

Respectfully submitted,

BLICKLE CO.
Contractor

By

CONSENT OF SURETY

Date January 7, 1970

We, GENERAL INSURANCE COMPANY OF AMERICA

, as

surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

William K. Thie
William K. Thie Attorney-in-fact CORPORATION

(SEAL)

Resident Agent

[illegible]
FEB 2 1970
FOR FILING

33-3312
7212

February 2, 1970

Mr. Ronald M. Somers
Attorney at Law
106 E. Fourth Street
The Dalles, Oregon 97058

Dear Mr. Somers:

This is in reply to your letter of January 28 and attached Amended Notice of Claim stating that J. Arlie Bryant, Inc., has a claim for rock in the amount of $4,354 against the bond taken from Interstate Paving Company and St. Paul Marine Company for work on State Contract No. J8201-69, Memaloose State Park. This appears to be in connection with a negotiated contract with Interstate Paving Company and the State of Oregon, Department of General Services for the account of the Oregon State Highway Division for asphaltic concrete paving in the Memaloose State Park.

Your first notice of claim received in this office on January 26, 1970, listed Blickle Company as principal and General Insurance Company of America as surety. This claim was filed against the Blickle Company Contract No. 7212, which apparently was in error.

We are forwarding your January 28 letter and Amended Notice of Claim of J. Arlie Bryant, Inc., to the Department of General Services.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:sj
cc General Ins. Co. of America
Jewett, Barton, Leavy & Kern
Blickle Company
Department of General Services
Secretary of State

Noted on card
2-2-70
SJ

RONALD M. SOMERS
ATTORNEY AT LAW
105 E. FOURTH STREET
THE DALLES, OREGON
97058

P. O. BOX 618
PHONE 296-2181

January 29, 1970

General Insurance Co. of America
520 S. W. Sixth Avenue
Portland, Oregon

ATTENTION: Mr. Proebstel
Bond Department

RE: Lien Notice
State Contract Job J-8201-69
Memaloose Trailer Park

Gentlemen:

Confirming my telephone conversation of the other day with your Mr. Proebstel, the lien notice which mentioned your client, Blickle Company, and sent to the Oregon State Highway Commission, was in error.

The information given to my secretary by the Local Resident Engineer mentioned the Blickle Company with that contract number. The Contract Number J-8201-69, as it appears on my original lien notice is correct. This is not the contract on which you bonded the Blickle Company, and Blickle Company had nothing to to with this contract.

I wish to advise you and the State Highway Commission on behalf of my client, J. Arlie Bryant, Inc., that the Blickle Company was most prompt in paying their bills and this company has had an excellent reputation in this area.

The original contractor in this particular matter who should have received the notice was Interstate Paving Company and its bonding company is St. Paul Marine Company.

Cw

NOTED
C. W. HEAD

NOTED
FLOYD QU[illegible]

I thank you again for calling your client and advising him that you had disregarded the notice and also for your kind cooperation in this matter.

Very truly yours,

Ronald M. Somers

RMS:FL

cc: Oregon State Highway Commission
Attention: Mr. Query
State Highway Building
Salem, Oregon 97310

cc: Blickle Company
2900 N. E. Stafford
Portland, Oregon

RECEIVED
[illegible]
OREGON
STATE HIGHWAY COMMISSION

AMENDED NOTICE OF CLAIM

TO: OREGON STATE HIGHWAY COMMISSION
Salem, Oregon 97310

NOTICE IS HEREBY GIVEN That the undersigned J. Arlie Bryant Inc. has a claim for 2,488 tons of rock at $1.75 for the State Contract Job # J-8201-69 - Memaloose Trailer Park by J. ARLIE BRYANT, INC. in the sum of $4,354.00 - Four Thousand Three Hundred Fifty-Four and 00/100 DOLLARS against the bond taken from INTERSTATE PAVING CO. as principal and ST. PAUL MARINE CO. as surety or sureties for the work on State Contract No. J 8201-69 Memaloose Trailer Park.

J. ARLIE BRYANT, INC.

By J Arlie Bryant, President
750 East Scenic Drive
The Dalles, Oregon 97058

cc: St. Paul Marine Marine Co.
c/o Jerome Lewis Co. Agent
1102 W. Yakima Avenue
Yakima, Washington

cc: Oregon State Highway Department
Seufert Park Road
The Dalles, Oregon 97058

F.R. (7324) ~~2548~~

Req. # H 8663
Bid J-8201-69
CA- 134-69
33-3780-447

NOTED
W. H. GASKILL

AGREEMENT

THIS AGREEMENT, made this 14th day of November, 19 69, by and between the State of Oregon, acting by and through the Department of General Services and hereinafter called the State, for the account of Oregon State Highway Department and Interstate Paving Co., P. O. Box 92, The Dalles, Oregon hereinafter called the Contractor,

WITNESSETH: That the Contractor, in consideration of the sums to be paid to him by the State in the manner and at the times hereinafter provided and of the other covenants and agreements herein contained, hereby agrees, for himself, his heirs, administrators, successors and assigns, to construct and complete the project herein described furnishing the necessary machinery, tools, apparatus, materials and labor and doing all things in accordance with the plans and specifications for "A.C. Paving" as contained in Bid J-8201-69.

It is further agreed that said plans and specifications and the Instructions to Bidders, General Conditions, Special Conditions and Accepted Bid, all appended to this contract agreement, hereby are specifically referred to and made a part of this contract and shall have the same force and effect as though all the same were fully inserted herein.

The work to be performed under this contract shall be completed by December 1, 1969 weather permitting

The State shall pay the Contractor for the performance of the Contract on the basis of the following, in accordance with the description of work as stated in the Specifications:

	Est. Qty.	Unit	Unit Price	Amount
I. Class "B" Asphaltic Concrete in place	3,000	ton	$13.00	$39,000.00

AC mix in Place
Memaloose Overnite

Mr. Koma has the cost on this.

Thirty Nine Thousand and no/100 - Dollars, such payment to be made in the manner and at the times provided for in the General Conditions hereto appended.

The provisions of ORS 279.350 through 279.354 relative to prevailing wage rates shall be complied with by the contractor. If any dispute arises as to what is the prevailing rate of wage for the same trade or occupation, employed or utilized by the contractor and if that dispute cannot be settled by the parties involved, the dispute shall then be referred to the Commissioner of the Bureau of Labor, who shall then determine the prevailing rate of wage for the same trade or occupation in the locality.

(W. B. [illegible])

33-3780-447 Comp 12-23-69

The minimum wages to be paid workmen of the project covered by this Agreement shall be not less than the prevailing rate paid to the corresponding classes of workmen in the locality as listed in the Special Conditions.

IN WITNESS WHEREOF, The State of Oregon, acting by and through the Department of General Services, executes this Contract and the contractor does sign and seal the same as of the day and year in this contract first above written.

CONTRACTOR	STATE OF OREGON
By: ______________________	By: Joseph Deutsch
President	Purchasing Manager
______________________	______________________
______________________	______________________

RECEIVED
NOV 28 1969
ACCOUNTING
DIVISION

RECEIVED
DEC 1 1969
STATE PARKS
[illegible] MENT

RECEIVED
NOV 21 1969
PURCHASING DIV.
GENERAL SERVICES
DEPT.

JAN 28 1970

4421

FILED

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

January 27, 1970

Mr. Ronald M. Somers
Attorney at Law
P. O. Box 618
The Dalles, Oregon 97058

Dear Mr. Somers:

This is to acknowledge receipt of your letter of January 22 and attached Notice of Claim of your client, J. Arlie Bryant, Inc., stating that Blickle Company owes them for rock in the amount of $4,354. This appears to be in connection with the Blickle Company Contract No. 7212 for an overnight camp area in Memaloose State Park on the Columbia River Highway in Wasco County.

The General Insurance Company of America through Jewett, Barton, Leavy & Kern, Morgan Building, Portland, furnished the performance bond on this contract. We will advise them of the receipt of this claim and will also forward it to the Secretary of State for filing.

Please advise this office when your client's claim has been paid.

Very truly yours,

NOTED ON CARD
1-28-70 CR

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cc General Ins. Co. of America
Jewett, Barton, Leavy & Kern
Blickle Company
Commission
Secretary of State

NOTED
C. W. HEAD

NOTICE OF CLAIM

7212

TO: OREGON STATE HIGHWAY COMMISSION
Salem, Oregon 97310

NOTICE IS HEREBY GIVEN That the undersigned J. ARLIE BRYANT, INC. has a claim for 2,488 tons of rock at $1.75 for the State Contract Job # J-8201-69 - Memaloose Trailer Park by J. ARLIE BRYANT, INC. in the sum of $4,354.00 Four Thousand three hundred fifty-four and 00/100 DOLLARS against the bond taken from BLICKLE CO. as principal and General Insurance Company of America as surety or sureties for the work on State Contract No. J 8201-69 Memaloose Trailer Park.

J. ARLIE BRYANT, INC.

BY J Arlie Bryant
President
750 East Scenic Drive
The Dalles, Oregon 97058

cc: General Insurance Co. of America
520 S. W. 6th Avenue
Portland, Oregon

cc: Oregon State Highway Department
Seufert Park Road
The Dalles, Oregon 97058

[illegible]

THE DALLES, OREGON 97058

[illegible]

RECEIVED
JAN 26 1970
OREGON
STATE HIGHWAY COMMISSION

33-3312
7212

FORM E-1 (REV 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: Memaloose State Park
WEEK ENDING: January 24, 1970
SECTION PREFIX: 33-3312
HIGHWAY: Columbia River
COUNTY: Wasco
NAME OF JOB: Memaloose State Park
KIND OF WORK: Overnight Camp Area
CONTRACTOR: Blickle Company
CONTRACT NUMBER: 7212
FEDERAL AID PROJECT NUMBER: State
DATE OF CONTRACT: April 9, 1969
DATE WORK STARTED: April 29, 1969
ESTIMATED COMPLETION DATE: November 12, 1969
AVERAGE FORCE ON PROJECT FOR THE WEEK: MEN: 0 SUPERVISION: 0
SPECIFIED WORK DAYS: N/A
WORK DAYS USED: N/A
SPECIFIED work ~~CALENDAR~~ DAYS: 200
work ~~CALENDAR~~ DAYS USED: 206
SPECIFIED COMPLETION DATE: N/A
PERCENT OF TIME ELAPSED: 103%
PROJECT AUTHORIZATION: $ 307,216.12
EXCLUSIVE OF ENGINEERING: $ 282,855.37
ENGINEERING AUTHORIZATION: $ 24,360.75
PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 100%
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 279.164.12
ENGINEERING COST TO DATE: $ 26,592.00
PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 99%
Cost this week 411.12
ESTIMATED PERCENT UNDERRUN: 1.3 %
PERCENT OF AUTHORIZATION: 109.2%
DATE PROJECT WAS COMPLETED: November 12, 1969

Including Engineering: UNDERRUN 0.4%

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE				
100%	100%	100%	100%	Water Sys. 100%	Bldgs. 100%	Sewer Sys. 100%	Electrical Sys. 100%

	GRADING	SURFACING	~~MAINTENANCE~~	~~OIL & BITUMINOUS~~	
MILES IN PROJECT	1.09	1.09	Buildings	Sewers	Water System
MILES PARTIALLY COMPLETED	1.09	1.09			
MILES COMPLETED	1.09	1.09			
TOTAL ESTIMATED QUANTITIES (CONTRACT)	$48,556.00	$23,360.00	$57,948.00	$47,531.40	$67,681.00
TOTAL QUANTITIES CORRECTED TO DATE	$51,826.65	$23,643.60	$58,769.34	$49,232.55	$66,754.02
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE	$51,826.65	$23,643.60	$58,769.34	$49,232.55	$66,754.02
AVERAGE DAILY QUANTITIES	-	-	-	-	-
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME	-	-	-	-	-
NUMBER OF SHIFTS PER DAY	-	-	-	-	-
HOURS PER SHIFT	-	-	-	-	-

EQUIPMENT USED DURING THE WEEK:

None used.

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	Calendar WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY	Freezing Rain Cloudy - ~~Sleet~~	-		Project completed.
MONDAY	Freezing Rain Cloudy - ~~Sleet~~	-		
TUESDAY	P. Cloudy	-		
WEDNESDAY	Cloudy	-		
THURSDAY	Rain	-		
FRIDAY	Rain	-		
SATURDAY	Rain	-		

Routing
Morgan M
Decker
Bond
Walker
Boehme
Johnsen SJ
Pease E
Swan
Glenn
Litchfield
Gallagher
Stein

RECEIVED
JAN 26 1970
CONSTRUCTION DIVISION

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY	
MONDAY	No work. Project completed.
TUESDAY	
WEDNESDAY	
THURSDAY	
FRIDAY	
SATURDAY	

REMARKS

Project has been completed.

Mr. J. F. Putnam, Div. Eng'r., was in the office on Tuesday and Wednesday of this week. The Semi-Final Estimate Data not submitted on January 15, 1970, was sent to the Division Office with Mr. Putnam on Wednesday of this week, January 21, 1970.

Mr. Al. Rear, Asst. Bridge Engineer, was in the office on Thursday of this week.

This will be the last Field Engineer's Weekly Report on this project.

SIGNED J Sawyer
J. S. Sawyer, Res. Eng'r.

LOCATION P. O. Box 420,
The Dalles, Oregon

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

SP-F216

RECEIVED
DEC 24 1969

FOR FILE
33 - 3312
7212

Salem, Oregon
November 21, 1969

Agenda Item 4t
November 18 Commission meeting

Mr. G. E. Rohde
Chief Counsel

Attention: Mr. Jack Sollis

RAILROAD COMPANIES
FILE No. 645

BUILDING

Attached are two copies each of a wire line agreement and a pipe line crossing agreement with Union Pacific Railroad Company covering installation of an electric service line and a water pipe which will serve Memaloose State Park in Wasco County.

Please have the Railroad Company sign all of the agreements and return one copy of each one to us. We are keeping xerox copies until the fully executed are returned.

Floyd Query, Secretary

fkn
Attachment

cc F. D. Morgan
Attn: Ted Litchfield

RECEIVED
NOV 17 1969

FOR FILING

32-3312

7212

November 14, 1969

Oregon State Highway Commission

Gentlemen:

Installation of a water line and a power line, crossing Union Pacific Railroad right-of-way adjacent to Memaloose State Park in Wasco County, has been completed under a permit of entry. Work was performed under contract number 7212. Formal agreements covering these facilities are to be executed at the convenience of both parties.

A standard pipeline crossing agreement has been prepared, which requires the State to bear all costs of installation and reimburse the Railroad for any expense it may incur in connection therewith. The permit is revocable within 30 days' notice which is the standard term for agreements of this type with Union Pacific.

A wire line agreement has also been prepared for your consideration covering the installation of a power line to conduct electric current not to exceed 440 volts over and across the right-of-way and track of the Union Pacific Railroad near the site of the above-designated water line crossing. The power crossing has been completed. Work was performed as a part of the contract number 7212 which also includes construction of campground facilities at Memaloose State Park.

This matter will be on the agenda for the November 18 Commission meeting and I recommend your approval of the two agreements.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc Floyd Query
R. L. Porter
Lloyd P. Shaw
Victor D. Wolfe
David G. Talbot
F. D. Morgan (Attn: T. W. Litchfield)
G. E. Rohde (Attn: Jack Sollis)
J. F. Putnam

LPS:ajw fn

RECEIVED
JUN 20 1969
FOR FILING

1859

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

June 19, 1969

Union Pacific Railroad Company
2525 North Larrabee Avenue
Portland, Oregon 97227

ATTENTION: Mr. W. G. Johnson

Re: Haul Road Permit
Memaloose State Park Overnight
Camp Area
Columbia River Highway
Wasco County
Contract No. 7212
YOUR FILE: D 9058-312-9

Gentlemen:

Please refer to our letter of June 4, 1969 and the print of a portion of your right of way map on which was shown the proposed haul road and borrow area requested by our contractor, Blickle Company.

The borrow area shown on that print occupied a portion of Lot 4 of Section 32, Township 3 North, Range 12 East, W.M., owned by the Union Pacific Railroad Company. This was in error and in fact, our contractor proposes to take material from the portion of Lot 4 owned by the State, as shown on the map, 4 prints of which are attached.

Please process Mr. Blickle's application in line with this revised map.

Very truly yours,

F. D. Morgan
Construction Engineer

By: ORIGINAL SIGNED BY
T. W. LITCHFIELD
T. W. Litchfield
Utilities Liaison Engineer

TWL:ss

Enclosure

cc: L. P. Shaw (w/copy of Map)
W. Gaskill
J. F. Putnam (w/copy of Map)
J. S. Sawyer "
F. W. Sugnet

NOTED
LLOYD P. SHAW

RECEIVED
JUN 19 1969
OFFICE OF
STATE HIGHWAY ENGINEER

Copy to Gaskill
with map
6-20-69

RECEIVED
JUN 1 [illegible]69

c

OREGON STATE
HIGHWAY DEPARTMENT

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

33 - 3312
7212

June 4, 1969

Union Pacific Railroad Company
2525 North Larrabee Avenue
Portland, Oregon 97227

ATTENTION: Mr. W. G. Johnson

Re: Haul Road Permit
Memaloose State Park Overnight
Camp Area
Columbia River Highway
Wasco County
Contract No. 7212
YOUR FILE: D 9058-312-9

Gentlemen:

Herewith you will find four (4) copies of a letter from Richard Blickle of Blickle Company, our contractor for this project, and four (4) prints of a portion of your right of way and track map on which is shown the proposed route of a haul road our contractor wishes to use in conjunction with this project.

The contractor requests permission to use your existing haul road through your Chatfield Quarry.

If this meets with your approval, please prepare and submit a haul road agreement in the usual manner. Your early attention to this matter will be appreciated.

Very truly yours,

F. D. Morgan
Construction Engineer

By: ORIGINAL SIGNED BY
T. W. LITCHFIELD
T. W. Litchfield
Utilities Liaison Engineer

TWL:ss
Enclosure

cc: L. P. Shaw (w/UPRR Map)
W. Gaskill
J. F. Putnam (w/UPRR Map)
J. S. Sawyer "
F. W. Sugnet

RECEIVED
JUN 5 1969
OFFICE OF
STATE HIGHWAY ENGINEER

BLICKLE Co. *General Contractors*

TELEPHONE
288-6004

2900 N. E. STAFFORD STREET
P. O. BOX 11234
PORTLAND, OREGON 97211

May 23, 1969

Mr. J. S. Sawyer, Resident Engineer
Oregon State Highway Department
P. O. Box 420
The Dalles, Oregon

Subject: Contract No. 7212, borrow source

Dear Sir:

We have been advised by Mr. Dennis of the Union Pacific Railroad Company that although the railroad would probably be willing to allow us to use the haul road through their Chatfield quarry, it is their policy to make such agreements with the Highway Department rather than directly with the contractor. Since we are very anxious to use the available material located on the highway right-of-way near the west end of the quarry we would be grateful for anything you or the Park Department can do in this connection. The Railroad Protective Insurance policy required by the Contract has been sent to the Union Pacific and copy to the Highway Department at Salem. In addition we maintain bodily injury and property damage liability insurance in limits of $100,000 and $1,000,000 and certificates of this can be furnished if required.

We would like to use the existing road which Mr. Dennis thought would be satisfactory and to restrict the trucks by laying timbers along one side in the area where he thought they might otherwise come too close to the main line track.

Yours truly,

BLICKLE CO.

by Richard Blickle

NOTED
LLOYD P. SHAW

RECEIVED
MAY 19 1969
FOR FILING

33-3312

7212

C

Bid 3-20-69

April 9, 1969

Blickle Co.
2900 N.E. Stafford St.
Portland, Oregon 97211

Gentlemen:

The State Highway Commission on March 26, 1969, accepted your proposal for an overnight camp area in Memaloose State Park on the Columbia River Highway in Wasco County for the sum of $268,961 and referred it to the State Highway Engineer with authority to award the contract as soon as the Railroad permit of entry has been received.

This condition was fulfilled and the State Highway Engineer today awarded you the project, which has been assigned Contract No. 7212.

Enclosed are three copies of this contract. Two of these copies should be signed on the contract and bond pages and returned to this office for completion. Please follow exactly the instructions given on the blue slip attached to the contract.

The third copy of the contract stamped "Advance Copy to be Retained by Contractor" is furnished for your information pending receipt of a fully executed copy.

The calendar workday count on this contract will begin April 21, 1969.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

GF
Enclosures
bc: Pacific Builder & Engr., Inc., Seattle, Wash.
Daily Journal of Commerce, Seattle, Wn., & Portland, Ore.
J. S. Sawyer
J. F. Putnam
Frank Morgan
D. J. Barbee
I. D. Merchant
H. W. McCauley
David Talbot

RECEIVED
MAR 24 1969
FOR FILING

23-3312
7212

March 21, 1969

Mr. S. M. Burgess
Post Office Box 106
Mosier, Oregon 97040

Dear Mr. Burgess:

Your March 11 letter in regard to a proposed Kampgrounds of America campground on US30 east of Mosier inquires as to possible lease of the State area known as Memaloose State Park.

The Memaloose project has been ready to go for nearly two years and only delay due to minor legal matters has prevented its being complete and in operation at this time. It is not our policy to lease the operation of the State park system. In addition, the access to Interstate 80 North at Memaloose is through agreement with the Federal Highway Administration and is specifically granted for operation by the State. We would not be interested in a lease proposal.

Thank you for advising us of your plans.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

Lloyd P. Shaw
Assistant State Highway Engineer

LPS:ajw
bc Forrest Cooper
R. L. Porter
David G. Talbot

KOA®

P. O. Box 1791
Telephone (406) 245-3054
Billings, Montana 59101

GENERAL SALES, INC.
Telephone (208) 232-1926

P. O. Box 1694
Pocatello, Idaho 83201

Kampgrounds of America, Inc.

March 11, 1969

Oregon State Highway Dept.
Parks and Tourism Division
Salem, Oregon

Gentlemen:

It has come to my attention that you plan to build an overnight trailer park east of Mosier, on Highway 80, near Memaloose Island. This will put us in direct competition for this type of service.

I have purchased the franchise rights for a K. O. A. (Kampgrounds of America), which is a nation-wide organization. The ironic thing about the situation is that I have purchased the property to erect my campgound within one-fourth mile of your proposed campground. My location is part of the old Mayer estate, overlooking Memaloose Island. The only difference is you will be on Highway 80 and I will be on old Highway 30. This service isgreatly needed, both of us will agree on this point. Is the need great enough for two of us to operate a campground?

Are you familiar with some of the new concepts of the U. S. Government concerning leasing? Would you be interested in leasing me your proposed site? With the state's financial crisis increasing, leasing would have definite advantages to you. If I change my plans to develope my campground, this would result in a tax loss to the state of Oregon and the county of Wasco.

Enclosed you will find one of our K. O. A. brochures telling the K. O. A. story. Please advise me if you have interest, because I am due to start construction on March 24, with a completion date of May 24. If you want additional information, I am sure the K. O. A. franchise office in Billings, Montana, will be glad to assist you.

Thank you for your patience and consideration.

Sincerely,

S. M. Burgess

S. M. Burgess

P. O. Box 106

Mosier, Oregon 97040

cc: K.O.A. Billings (Mr. Ken Pierce)
K.O.A. Mr. Mel Anderson

RECEIVED
MAR 14 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
FEB 26 1969
FOR FILING

33-3312

7212

February 25, 1969

Oregon State Highway Commission

Gentlemen:

For several years, we have been hoping to contract construction at Memaloose Park to provide overnight camping facilities and a reliable water supply for the existing rest areas. The project was on the approved construction schedule but was withdrawn in early 1968.

We had negotiated with Union Pacific Railroad for an agreement to cross its tracks for a water line and a power supply to a pump site on the bank of the Columbia River. By February, 1968, it became apparent that no progress was being made in regard to an agreement and any attempt to assign a construction date to the project was abandoned.

It now appears that within a short time we will have an agreement with Union Pacific permitting the crossings which are necessary to our park development. For this reason, I request your approval to place under contract the construction of a water intake system, water treatment plant, storage tank, and distribution lines to supply both existing rest areas at Memaloose Park and to provide water to a camp area which will ultimately have approximately 200 campsites.

Also included in the construction now proposed would be full development of 42 trailer sites, partial development of approximately 25 campsites to an intermediate standard, and minimum development of approximately 43 additional tent sites.

The total project is estimated to cost $300,000; funds will be available in the current biennial budget in the amount of $150,000. The 1969-71 budget, which is not yet approved, contains an item for $287,700, approximately $150,000 of which is for items included under this contract.

I recommend your approval to place this project under contract.

This matter will appear on the agenda for the March 11 Commission meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

LPS:ajw lms
bc: Floyd Query
R. L. Porter
Lloyd P. Shaw
Victor D. Wolfe
David G. Talbot
C. H. Maison
L. H. Young

RECEIVED
FEB 14 1969
FOR [illegible]

OREGON STATE
HIGHWAY DEPARTMENT

5-3312

HIGHWAY BUILDING • SALEM, OREGON • 97310 • Phone 364-2171

7212

February 11, 1969

Mr. Kessler Cannon
Administrative Assistant to Governor
207 Oregon State Capitol
Salem, Oregon 97310

Dear Kess:

In response to your letter of January 30, 1969 regarding Paragraph 3 of Mr. Patterson's letter, we would suggest comments as follows:

1. Based on a 1964 survey (copy attached), camping families spend $11.27 per day within a 25-mile radius of the park. This type of data will be updated this year and we expect spending patterns to increase substantially over 1964.

2. The Memaloose area was selected for several reasons.

   A. The State already owned the property, thereby saving tax dollars and removal of land from the tax base. I expect that if we proposed purchase of land in downtown The Dalles, more people than Mr. Patterson would object, but for different reasons.

   B. The supply of camping facilities along the Columbia River is very low and we have been doing our best to take up the slack--new state campground at the mouth of the Deschutes River, revamp old facilities at Viento near Hood River, etc. The local governments which would benefit most have made little or no effort to help with this supply-demand problem.

   C. In the expenditure of State funds, concern for local benefit must necessarily become secondary to cost consideration and general statewide benefits. If Mr. Patterson's thesis were to be carried out 100%, most of our parks would be located in the Willamette Valley--which is not the case at all.

NOTED
LLOYD P. SHAW

   D. In the provision of camping facilities along, or adjacent to, interstate routes, site location is determined by access, recreational quality of the lands, and economic feasibility. Opportunities for campgrounds along the Columbia are very limited and the Memaloose site was one of a very few and relatively poor opportunities. Incidentally, Memaloose is the first situation we have heard of where the Bureau of Public Roads has authorized direct access from a Safety Rest Area for development of recreational and camping facilities.

E. The same staff will be able to maintain and operate the Rest Area and campground, thereby saving some of the taxpayers' money.

I hope these comments will give you some ideas for the Governor's answer.

Very truly yours,

David G. Talbot
State Parks Superintendent

DGT:al

✓ bc: Lloyd P. Shaw
R. I. McCosh

RECEIVED
FEB 13 1969
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
SEP 20 1967
FOR FILING

33-3312
7212

Agenda
4L

Salem, Oregon
September 1, 1967

Wire Line Agreement and Pipe
Line Crossing Agreement
Union Pacific Railroad Company
Memaloose State Park
Columbia River Highway
Wasco County

RAILROAD COMPANIES
FILE No. 1045

Mr. G. E. Rohde
Chief Counsel
BUILDING

Attention: Mr. Jack L. Sollis
Staff Attorney

Attached for signature by Union Pacific Railroad Company are two each copies of a Wire Line Agreement and Pipe Line Crossing Agreement covering the installation of a water supply line and an electric line to serve Memaloose State Park on the above-mentioned land.

After the agreements have been signed and dated, a fully executed copy should be returned to this office for the Commission's files.

Floyd Query, Secretary

lmr
Att. (2)

cc: T. W. Litchfield

1

RECEIVED
AUG 25 1967

Mains
Parks
Memaloose

August 25, 1967

Oregon State Highway Commission

Gentlemen:

There will be on the agenda for the August 29 meeting a Wire Line Agreement and a Pipeline Crossing Agreement with the Union Pacific Railroad Company covering the installation of a water supply line and an electric line to serve a pump required by the expansion of the Memaloose State Park on the Columbia River Highway in Wasco County.

Both of these agreements are standard permits which require the State to bear all the cost of installation and reimburse the Railroad for any expense it may incur in connection therewith. Both permits are revokable on 30-day notice and these permits in general are similar to permits issued by the Highway Department to outside parties for similar installations across highways.

We recommend your approval.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc Floyd Query
R. L. Porter
F. B. Klaboe
Lloyd P. Shaw
Victor D. Wolfe
L. H. Young
F. D. Morgan
C. H. Maison
J. F. Putnam

TWL:fw fn

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MAY 17 1967

FOR FILING

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7212

Salem, Oregon
May 10, 1967

Memaloose State Park
Columbia River Highway
Wasco County

Mr. J. F. Putnam
Division Engineer
P. O. Box 1249
Bend, Oregon

The State Parks and Recreation Division, by letter of December 15, 1966, requested the Right of Way Department to transfer the area, as listed on the attached sheet, from Right of Way to the Parks Department, to thereafter be maintained as a part of the Memaloose State Park.

The area consists of 336.79 acres in and transferred to State Parks, leaving an area of 86.45 acres within the right of way.

To further set out the area we attach for your records a section of our Right of Way Map 7B-10-1, on which the area to be transferred to the Parks Department is outlined in blue, the remaining in right of way is outlined in red.

The transfer of same is hereby approved.

F. B. KLABOE
Asst. State Highway Engineer

KFS:jm
enclosures

cc: R. S. Hunter
Dave Talbot
Attn. Lynn V. Koons
Mark Astrup

MEMALOOSE STATE PARK SECTION

COLUMBIA RIVER HIGHWAY

WASCO COUNTY

Area Determination between
Park and Highway right of way

April 19, 1967

File No.	Area of Initial Acquisition	Area Sold	Area within Highway R/W	Area within State Park
18343	126.00 A	19.5 A (Owner)	18.00 A	88.50 A
18344	138.61		26.25	112.36
18345	55.00		6.67	48.33
18346	47.80		11.83	35.97
18347	7.03		7.03	
18348	40.00		11.65	28.35
18349	5.50 Parcel I		4.61	.89
19561	1.55			1.55
19947	18.20			18.20
Park 19	2.64			2.64
18497	0.41		0.41	
Total	442.74	19.5	86.45	336.79

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March 13, 1957

Oregon State Highway Commission

Gentlemen:

In regard to development in existing State parks, our proposed construction of facilities on the following areas will be undertaken as our budget permits unless you desire other action taken.

Fort Stevens	construct 107 trailer sites	$275,000
Memaloose	construct 60 trailer sites	$150,000
Harris Beach	construct 50 trailer sites	$120,000
Goose Lake	construct 40 trailer sites	$110,000

All trailer installations listed will include necessary sanitary facilities, roadways, and appurtenances.

The LaPine Recreation Area will be sufficiently complete to permit public use late this coming summer. To minimize vandalism and to be prepared for full-scale operation in the 1958 season, it is planned to construct the residence building during the summer of 1957 at an estimated cost of $25,000. This building was included in plans for development of the area but was not included in those items listed in Mr. Shaw's April 19, 1956, informational letter to you.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: R. L. Porter
Lloyd P. Shaw
Victor D. Wolfe
David Talbot

lps;ajw cm

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DEC 2 0 1966

FOR FILING

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OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
December 15, 1966

SUBJECT: Excess Right of Way Transfer
Memaloose State Park
Columbia River Highway
Wasco County

To:

Mr. George E. Rohde
Chief Counsel
BUILDING

Attention: Mr. Earl F. Saling

For administrative and control purposes, in connection with the construction and maintenance of the proposed overnight camp, to be constructed by the State Parks and Recreation Division northwest of the existing Memaloose Safety Rest Area, please transfer the excess highway right of way contained within the boundary colored in red, shown on the attached 3B-7-31 map, which is covered by the following Right of Way files to the State Parks and Recreation Division effective this date.

Grantor	R/W File Number	Acres Conveyed
Ron D. Chatfield	12615	126.00
W. T. McClure	12647	138.61
Josephine Hiatt	12721	55.00
William A. & Elsie Marsh	12593	47.80
Pete & Marie K. Kitto	13606	18.20
Emma J. McClure	12777	40.00
Lurene Dunsmore	12791	5.50
		7.75
Pete Kitto, et ux	13532	6.55
Pete Kitto, et ux	12548	7.03

original signed

Memaloose State Park is selected as the name for the new addition.

Please take the necessary steps to make this transfer, and when accomplished, advise the highway personnel administratively affected by the transfer. Also, please advise the acreage that will be chargeable to the Parks Division by this transfer.

Warren ... Gaskill, Chief
Field Operations

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DEC 21 1966
OFFICE OF
STATE HIGHWAY ENGINEER

WHG:jrb
Attachment

cc: L. P. Shaw, D. J. Barbee, C. H. Maison
W. H. Haskins

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JUN 17 1966

FOR FILING

133-3312
7212

KLAUSE
cc SHAW 6-16-66

Form CD-121 (11-63) (Pres. by A.O. 206-10) UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
477 Cottage Street NE.
Salem, Oregon 97301

DATE: June 14, 1966

In reply refer to: 08-35-DA

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

A. W. Parsons

FROM : A. W. Parsons, Division Engineer
Salem, Oregon

SUBJECT: Oregon Project I-80N-3(--)61
Memaloose Rest Area, Columbia River Highway

Reference is made to your request of March 2, 1966 and additional information submitted on April 28, 1966 as a result of our request of April 25.

On the basis of the assurances that the Parks & Recreation Division will control access to and use of the area, no commercial development will be permitted, and that no entry to adjacent lands will be allowed, approval is hereby given to an access to the westbound on ramp for use of a contemplated State Park.

It should be pointed out that accesses of this nature will not be granted as a general policy and each exception must be considered on its individual merits.

REFERRED TO
[illegible]
BY ASST. STATE HWY. ENGR.
6-17-66

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

RECEIVED
APR 28 1966
FOR FILING
33-3312
7212

April 28, 1966

Mr. A. W. Parsons, Division Engineer
Bureau of Public Roads
477 Cottage Street, N. E.
Salem, Oregon

Re: 08-35-DA

Dear Mr. Parsons:

In reply to your memorandum of April 25 regarding control of lands adjacent to rest areas if access through those lands is granted:

(1) The State Highway Commission, through the State Parks Division, will control the area to which access is proposed.

(2) No commercialism is contemplated in connection with the areas under consideration unless the usual charge made in Oregon State Parks for overnight camping could be so regarded. At this time there is no schedule of charges established for this type of area since none exists. Charges, if made, would depend upon the type of facility available after development of the area.

(3) Access to the area will be under the immediate control of the Oregon State Park Manager under whose direction the park will fall.

(4) No entry to lands adjacent to the park area will be permitted unless documented rights have been established. (In the case under consideration at Memaloose Rest Area, there is an established right of access held by Union Pacific Railroad.)

Consideration should be given to establishing a procedure to grant access to foot trails which would otherwise be inaccessible. I have reference to the type of trail now used for recreation in semi-wilderness areas such as the Columbia Gorge.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

Lloyd P. Shaw
Assistant State Highway Engineer

LPS:ajw

bc Forrest Cooper
R. L. Porter
David G. Talbot

Form CD-121
(11-63)
(Pres. by
A.O. 206-10)

UNITED STATES GOVERNMENT

Memorandum

Shaw

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
477 Cottage Street NE.
Salem, Oregon 97301

TO : Mr. Forrest Cooper, State Highway Engineer
Salem, Oregon

DATE: April 25, 1966

In reply refer to: 08-35-DA

AW Parsons

FROM : A. W. Parsons, Division Engineer
Salem, Oregon

SUBJECT: Oregon Project I-80N-3(--)61
Memaloose Rest Area
Access to Proposed Park Area

Mr. Shaw's letter dated March 2 requested a change in Bureau policy to permit access to park lands through established rest area sites.

In order to clear up a few questions which may arise from proposals such as this could you provide answers to the following:

1. Who will have control of the proposed park area?
2. Is any commercialization proposed for the area?
3. Who will control the access to the park area?
4. Will entry to other lands adjacent to the park be permitted?

As soon as this information has been received further consideration will be given to your proposal.

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

RECEIVED
MAR 2 - 1966
FOR FILING

53-3312

7212

March 2, 1966

Mr. A. W. Parsons, Division Engineer
Bureau of Public Roads
477 Cottage Street, N. E.
Salem, Oregon

Dear Sir:

Federal policy forbidding use of rest area ramps as service to adjacent property has thus far been applied to public as well as private lands. The result has been to deny to the public the recreational use of areas which are ideally located and badly needed. A case in point is the Memaloose westbound ramp and parking area.

Memaloose Safety Rest Area is located approximately three miles east of Mosier on Interstate 80N. Entrance and exit ramps are provided to serve parking areas located on either side of the freeway. The parking area and ramps located on the north side of the freeway which serve only westbound traffic also serve as access to a road which taps Union Pacific Railroad property through a locked gate. This is shown on map C2-51 which is attached.

Map C2-51 shows proposed use of state park area now isolated by rugged terrain on the north and equally isolated by restrictive access policy on the south. As shown, it is quite simple to provide access to a large and very beautiful area which should be developed for public recreational use. Development of overnight facilities at this point is especially desirable since so few areas in the Columbia River Gorge are available for this purpose.

Overnight facilities now provided along Interstate 80N by the State Parks system are:

Lewis and Clark State Park, 16 miles east of Portland, with 13 tent sites.

An extension of Ainsworth State Park, 33 miles east of Portland, will be developed as an overnight park this summer and will have about 45 trailer-unit capacity.

Viento State Park, 54 miles east of Portland, is badly depleted in area by construction of the freeway and much of its usable land was destroyed by the floods of 1964. It will be rehabilitated to some extent but probably not to equal its original 45 tent sites.

The next overnight camp is located at Emigrant Springs, 234 miles east of Portland and 152 miles east of the area commonly referred to as the Columbia River Gorge.

We request that you take action which will result in use of the northerly parking area at Memaloose as an access to adjacent State Park lands. This is not a request for Interstate financial participation in access to or development of the State Park. No cost to the Federal Government through the Federal-aid Highway System is contemplated.

In further support of permitting access at the proposed location, you will note that from the standpoint of safety it would be ideal since traffic, having passed through the parking area, would be moving at an extremely low speed at the point of access. There is minimum likelihood of confusion on the part of the driver either entering or leaving the access point. Traffic using the access road would be separated from the freeway both horizontally and vertically since the ground drops rapidly from the freeway in a northerly direction. Interference with freeway traffic by light from vehicles traveling the access road is thus ruled out.

Although only westbound traffic would be able to approach the park by way of the rest area ramp, there is an interchange three miles east at Rowena which would permit eastbound traffic to reverse direction and thus enter the park.

Spacing of overnight campsites through the scenic Columbia River Gorge would be reasonably uniform if Memaloose were activated. We are prepared to begin development of the area at once if access can be arranged and could be serving the public in the summer of 1967.

Again, we request that your policy be changed to permit access to park lands as indicated in the foregoing text and attachment hereto.

Very truly yours,

Forrest Cooper
State Highway Engineer

By

Lloyd P. Shaw
Assistant State Highway Engineer

LPS:ajw
Attachment
bc Forrest Cooper
R. L. Porter
F. B. Klaboe
David G. Talbot

RECEIVED
FEB 4 - 1966
FOR FILING

33-3312

7212

February 3, 1966

Mr. Kenneth M. Fridley, Member
Oregon State Highway Commission
Post Office Box 46
Wasco, Oregon 97065

Dear Mr. Fridley:

You recently asked that you be advised of our Parks Division's feeling toward development of the Chatfield (Memaloose) area in Wasco County.

Only one obstacle prevents development—that of access. The Bureau of Public Roads has refused to consider allowing public access from the rest area to the park property; this, in spite of an existing gated access which serves Union Pacific railway needs.

We have never given up the idea that eventually we would break the Bureau on this matter and we have obtained ground similarly located at other safety rest areas in anticipation of access therefrom.

Another appeal to the Bureau is now being prepared requesting access at Chatfield. In view of Mrs. Lyndon B. Johnson's assistance nationally in recreation and beautification matters, the time seems right. If we can break one of these access restrictions, we probably will have broken them all.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: R. L. Porter
Lloyd P. Shaw
Victor D. Wolfe
David G. Talbot

LPS:ajw bg

RR-645

4-8318 Mecanicum Rock Protection Proj. [illegible]
Sunset Highway, E. of [illegible]
17213 Jct.

RECEIVED
AUG 15 1969
FOR FILING

4-8318

7213

August 15, 1969

Wells-Reed-Wood-West Co.
412 Failing Building
Portland, Oregon 97204

Gentlemen:

Contract No. 7213 awarded to Oceanlake Ready-Mix Co. for the Necanicum Rock Production Project on the Oregon Coast, Sunset, and Necanicum Highways in Clatsop and Tillamook Counties was completed on July 2, 1969, and accepted by the Highway Commission on August 14, 1969.

Final payment in the amount of $14,951.46 will be released to the contractor after August 22, 1969. The total contract amount is $79,551.16 and no work was performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

cr

cc: Oceanlake Ready-Mix Co.
1923 N. Highway 101
Lincoln City, Oregon 97367

Great American Insurance Company
Pacific NW Regional Office
2030 Ninth Avenue
Seattle, Washington 98121

R. D. Asburry
F. D. Morgan
V. E. Skoog
Attn: John Herr

RECEIVED
AUG 15 1969
FOR FILING
4-2318
111

August 14, 1969

Oregon State Highway Commission

Gentlemen:

Work was completed July 2, 1969, on Contract No. 7213. The contract was with Ocean Lake Ready Mix Company and was for rock production on the Necanicum Rock Production Project on the Oregon Coast, Sunset and Necanicum Highways in Tillamook and Clatsop Counties.

As the contractor has completed all work according to specifications, I recommend that you accept the project as of this date.

This matter will be on the agenda for confirmation at the August 19 meeting.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
F. B. Klaboe
V. D. Wolfe
V. E. Skoog
Ivan Merchant
L. E. Young
F. D. Morgan
R. D. Asburry

srb sr

4-8318
7213

FORM E-1 (REV 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: Necanicum Rock Production
WEEK ENDING: July 11, 1969
SECTION PREFIX: 4-8318
HIGHWAY: 53 - 26 - 101
COUNTY: Clatsop
NAME OF JOB: Necanicum Rock Production
KIND OF WORK: Rock Production
CONTRACTOR: Oceanlake Ready mix Co.
CONTRACT NUMBER: 7213
FEDERAL AID PROJECT NUMBER: State
DATE OF CONTRACT: March 28, 1969
DATE WORK STARTED: April 16, 1969
ESTIMATED COMPLETION DATE: July 2, 1969
AVERAGE FORCE ON PROJECT FOR THE WEEK MEN: 0 SUPERVISION: 0
SPECIFIED WORK DAYS:
WORK DAYS USED:
SPECIFIED CALENDAR DAYS:
CALENDAR DAYS USED:
SPECIFIED COMPLETION DATE: June 1, 1969
PERCENT OF TIME ELAPSED: 148
PROJECT AUTHORIZATION: $ 90455.00
EXCLUSIVE OF ENGINEERING: $ 82555.00
ENGINEERING AUTHORIZATION: $ 7900.00
PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 100
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 77551.16
ENGINEERING COST TO DATE: $ 3603.00
PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 92(100)
ESTIMATED PERCENT OVERRUN UNDERRUN: 8 %
PERCENT OF AUTHORIZATION: 46 %
DATE PROJECT WAS COMPLETED: July 2, 1969

ESTIMATED PERCENT COMPLETE (ROADWORK) Semi Final in

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE	MAT'L PROD		
					100		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)			24000yds		
TOTAL QUANTITIES CORRECTED TO DATE			24880yds		
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE			24880yds		
AVERAGE DAILY QUANTITIES			-		
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME			Job Completed		
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:

None - Equipment being moved out.

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY				
MONDAY				
TUESDAY				
WEDNESDAY				
THURSDAY				
FRIDAY				
SATURDAY				

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[illegible]
CONSTRUCTION
DIVISION

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY	
MONDAY	
TUESDAY	
WEDNESDAY	
THURSDAY	
FRIDAY	
SATURDAY	

REMARKS

Job completed. Equipment mostly moved out. Semi Final sent to [illegible] Division July 10, 1969.

SIGNED Loren [illegible] LOCATION Astoria

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES

SP*F216

RECEIVED
APR 25 1969
FOR FILING

4-2318

7213

April 25, 1969

Oceanlake Ready-Mix Co.
1923 N. Highway 101
Lincoln City, Oregon 97367

Gentlemen:

We enclose for your files a fully executed copy of the following described contract which was awarded to you by the State Highway Commission:

> Contract No. 7213 for the Necanicum Rock Production Project on the Oregon Coast, Sunset, and Necanicum Highways in Clatsop and Tillamook Counties.

A copy of this contract is also being sent to the surety on your performance bond.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

sr

Enclosure

cc: Great American Insurance Company
Wells-Reed-Wood-West Co.
Frank Morgan
D. J. Barbee
I. D. Merchant
Loren Weber
R. D. Asburry

RECEIVED
APR 2 - 1969
FOR ...

4-8318

7213

April 2, 1969

Oregon State Highway Commission

Gentlemen:

On March 20 bids were received for the Necanicum Rock Production Project on the Sunset Highway in Clatsop and Tillamook Counties. The only bid was in the amount of $85,000, which is 28.4 percent above the estimated cost. In that only one bid was received, we recommended to you on March 27 that this bid be rejected. We have Mr. Jackson's verbal approval of this recommendation. The following is a breakdown of the bid as received:

No.	Item	Unit Bid	Amount
1.	Temporary Protection and Direct Traffic	$1,000.00 (Lump Sum)	$ 1,000.00
2.	3/4"-0 Material in Stockpile	$3.40 c.y.	27,200.00
3.	1/2"-1/4" Material in Stockpile	3.50 c.y.	28,000.00
4.	1/4"-0 Material in Stockpile	3.60 c.y.	28,800.00
		Total	$85,000.00

State law provides that when no satisfactory bid is received, the Commission can take whatever steps are necessary to accomplish the work, such as, using State forces, negotiating a contract, or things of this kind. The only bidder, Oceanlake Sand & Gravel, Inc., has now offered to do the work on the following reduced price basis:

No.	Item	Unit Bid	Amount
1.	Temporary Protection and Direct Traffic	$1,000.00 (Lump Sum)	$ 1,000.00
2.	3/4"-0 Material in Stockpile	$3.15 c.y.	25,200.00
3.	1/2"-1/4" Material in Stockpile	3.25 c.y.	26,000.00
4.	1/4"-0 Material in Stockpile	3.35 c.y.	26,800.00
		Total	$79,000.00

While this proposal is 19 percent above our original estimate, it is essential that this material be produced. I do not believe that readvertising will attract additional bidders and recommend that you accept the work on the basis of $79,000 as proposed.

This matter was cleared with Mr. Jackson on March 28 and will be on the agenda for the April 22 meeting for your concurrence.

Very truly yours,

Forrest Cooper
State Highway Engineer

cc: Floyd Query
R. L. Porter
Tom Edwards
F. B. Klaboe
Victor D. Wolfe
L. H. Young
F. D. Morgan
C. H. Maison
R. D. Asburry

RLP:ms sr

FORM E-30 50M 7-64 SP*6229-734

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
March 27, 1969

SUBJECT:

To: Forrest Cooper
State Highway Engineer

OFFICE

OK copy

Porter

OK Jackson
March 28, 1969
RB

On March 20, we received bids on the Necanicum Rock Production project in the total amount of $85,000, which was 28.4 percent above our estimated cost. We recommended the bid be rejected. This was a single bid.

The contractor, Oceanlake Ready Mix, upon being advised of the rejection, offered to renegotiate at a total price of $79,000, a reduction of $6,000. We are in need of the material inasmuch as a considerable amount of the rock previously stored in this area has been used to resurface the section of the road taken out by the slide north of Cannon Beach.

I would recommend that we enter into a negotiated agreement with the contractor at a total price of $79,000 to produce the material for which bids were invited.

Tom Edwards
Tom Edwards
Assistant State Highway Engineer

TE:ms
cc R.L. Porter
F.B. Klaboe
Victor D. Wolfe
L. H. Young

Oceanlake Sand & Gravel, Inc.
"Ready Mix" CONCRETE · BUILDING SUPPLIES
[redacted]

March 27, 1969

Mr. Forest Cooper
State Highway Dept.
Salem, Oregon

Re: Necanicum Rock Production
Bid March 20, 1969

Dear Sir:

Information regarding the above contract has been brought to our attention since the bid date. We find there is a D9 ripper Cat. in the area that is available to rip and push this rock down from the top of the quarry. The cost of this work is $ .30 per cubic yard. We would be pleased to extend this savings to the Highway Department. The result would be a unit price reduction of $ .25 per cubic yard.

We therefore would accept the award of this project at the following prices.

Item No.				
1.	Traffic	Lump	Sum	$ 1000.00
2.	3/4"-0 in S.P.	$3.15	cu. yd.	25,200.00
3.	½"-¼" in S.P.	3.25	cu. yd.	26,000.00
4.	¼"-0 in S.P.	3.35	cu. yd.	26,800.00
	Total ammount of bid			$79,000.00

Sincerely,

John A. Sapton
Vice President
Oceanlake Sand & Gravel Co.

NOTED
TOM EDWARDS

RECEIVED
MAR 28 1969
OFFICE OF
STATE HIGHWAY ENGINEER

Fill - Excavation - Bulldozer - Scoopmobile - Topsoil

03/20/69 JOB NO. 14

NO.	ITEM NAME	QUANTITY	UNIT	LOW BIDDER396 UNIT BID	AMOUNT	Est.	
1	TEMPORARY PROTECTION AND DIRECT TRAFFIC	1.000	LUMP SUM	1000.00	1,000.00		200-
2	3/4IN-0 MATERIAL IN STOCKPILE	8,000.000	CU YDS	3.40	27,200.00	2.75	22,000.00
3	1/2IN-1/4IN MATERIAL IN STOCKPILE	8,000.000	CU YDS	3.50	28,000.00	2.75	22,000.00
4	1/4IN-0 MATERIAL IN STOCKPILE	8,000.000	CU YDS	3.60	28,800.00	2.75	22,000.00
	TOTAL BID				85,000.00		66,200

RECEIVED
APR 2 - 1969
FOR FILING

4-8318

7213

April 1, 1969

CERTIFIED MAIL

Oceanlake Ready-Mix Co.
1923 N. Highway 101
Lincoln City, Oregon 97367

Gentlemen:

As you know, the Highway Commission on March 26 rejected your bid as being too high for the Necanicum Rock Production Project.

We are, therefore, returning your Certified Check No. 349 in the amount of $4,250 which you submitted with your bid.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

fkm
Attachment

cc C. H. Maison
Attn: John Herr

RECEIVED
MAR 27 1969

FOR FILE
4-8318
7213

Salem, Oregon
March 27, 1969

Forrest Cooper
State Highway Engineer

OFFICE

On March 20, we received bids on the Necanicum Rock Production project in the total amount of $85,000, which was 28.4 percent above our estimated cost. We recommended the bid be rejected. This was a single bid.

The contractor, Oceanlake Ready Mix, upon being advised of the rejection, offered to renegotiate at a total price of $79,000, a reduction of $6,000. We are in need of the material inasmuch as a considerable amount of the rock previously stored in this area has been used to resurface the section of the road taken out by the slide north of Cannon Beach.

I would recommend that we enter into a negotiated agreement with the contractor at a total price of $79,000 to produce the material for which bids were invited.

Tom Edwards
Assistant State Highway Engineer

TE:mm
cc R.L. Porter
F.B. Klaboe
Victor D. Wolfe
L. E. Young

FORM E-89 50M 7-64 SP*6229-734

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
March 27, 1969

SUBJECT:

3 W

To: Forrest Cooper
State Highway Engineer

OFFICE

OK: Cooper

OK Jackson
March 28, 1969
RB

Porter -

On March 20, we received bids on the Necanicum Rock Production project in the total amount of $85,000, which was 28.4 percent above our estimated cost. We recommended the bid be rejected. This was a single bid.

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Tom Edwards
Tom Edwards
Assistant State Highway Engineer

TE:ms
cc R.L. Porter
F.B. Klaboe
Victor D. Wolfe
L. H. Young

I-405-8(20) ... Tremont Interch. Section, 197[illegible]
303 of Stadium Frwy. in Mlwk. (Grad.,
#7214 pav., struc., sign., illum.)

C a A 3678
3828
4366

☆U.S. GOVERNMENT PRINTING OFFICE: 1974 — 732 - 628

STATE COPY

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

cc: OSHD (E S Hunter)
Wash. D.C. (HHO-32)

FINAL ACCEPTANCE REPORT

REGION NO. 10	REPORT NO. 32	COUNTY Multnomah	DIVISION Oregon
DATE OF REPORT 11-10-76	REPORT MADE BY C.T. Christianson, Area Engr.		PROJECT NO. I-405-8(20)303
COMPLETION DATE 10-19-72	ACCEPTANCE DATE BY CONTRACT AGENCY 3-30-73	TIME ELAPSED 100 %	CONTRACT TIME a-550 Cal. days b-730 " " c-850 " "
APPROVED EXTENSIONS 167 Cal. days	LOCATION Between Willamette River & Johnson St. in northwest Portland, Oregon		

*The PR-47, Statement of Materials and Labor Used by Contractors on Highway Construction Involving Federal Funds, has been submitted.

*A copy of the State's materials certificate is attached to the Division office copy of this report.
There is compliance with section 1.23 of the Regulations pertaining to encroachments on the right-of-way.

COPY SENT
NOV 11 1976
Washington

REMARKS: *The project has been completed in reasonably close conformity with the approved plans and specifications including authorized changes and extra work.*

cy. Keasey

NOTED
E. S. HUNTER

WEST FREMONT INTERCHANGE SECTION
STADIUM FREEWAY
Grading, Paving, Structures, Signing & Illumination

The purpose of this project was to construct an elevated interchange between I-405 and the future I-505 at the west end of the Fremont Bridge crossing of the Willmmette River in Portland. The project was satisfactorily completed in October 1972 with several unresolved issues relating to assignment of responsibility for changes and corrective work necessary to meet acceptance requirements.

The most significant of these issues evolved around failures in the paint system. This resulted in eventual litigation that was settled in July of 1976 by negotiation.

Past inspection reports and correspondence indicate a problem with some of the signs in that they do not conform to MUTCD requirements as to legend and route shield location. A meeting between State and FHWA personnel resulted in a detailed investigation of the total sign structures and pointed out the slim profile support structures would be stressed to maximum ~~under~~ design wind loads if larger signs were installed for proper legend placement. The State modified destination legend arrangement and down arrows to promote smoother operation. While the signs still do not meet MUTCD standards, there has been no noticeable adverse effect on traffic operations or safety. Replacement of sign structures is not considered cost effective; therefore, acceptance of the existing signing is recommended.

*NOTE: Not applicable for direct federal projects. (more)

ACCEPTANCE OF PROJECT IS RECOMMENDED		ACCEPTED BY FEDERAL HIGHWAY ADMINISTRATION	
SIGNATURE C.T. Christianson C. T. Christianson		SIGNATURE E. J. Valach Original signed by E. J. Valach Dist. Engineer	
TITLE Area Engineer	DATE 11-10-76	TITLE District Engineer	DATE 11-11-76

FORM FHWA-1446 B (12-73) FORMERLY PR-33E

Previous Editions of PR-33E Will Not Be Used.

The project was completed at an approximate total cost of $20,751,000 including engineering, contingencies and litigation settlement. This represents a negligible underrun. All project details including changes and litigation are adequately documented in the project files.

STATE COPY

FORM APPROVED
OMB NO. 04-R2274

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL HIGHWAY ADMINISTRATION

STATEMENT OF MATERIALS AND LABOR USED BY CONTRACTORS ON HIGHWAY CONSTRUCTION INVOLVING FEDERAL FUNDS

(PPM 20-2 and PPM 40-4)

ALL	*To be completed by Washington Headquarters Personnel*	2 – 4 | 3 – 8 | 9 – 12 | 13 – 15 16 – 18 | 19 – 22 | 23 – 24 | 25 – 27 | 28 – 30 | 31 – 33

PART A *(To be completed by FHWA or State Highway Personnel (See instructions on reverse))*

STATE	COUNTY	FEDERAL PROJECT NO.	URBAN (X) RURAL ( )
Oregon	Multnomah	I-405-8(20)303	

CARD	ITEM	DESCRIPTION	UNIT	ROADWAY QUANTITY	BRIDGE QUANTITY (Over 20 ft.)	
CARD A		CONSTRUCTION TYPE CODES			X271	DATE STARTED June 4, 1969
	20	FINAL CONSTRUCTION COST	DOL.	$ 238,952	$ 19,101,166	DATE COMPLETED October 19, 1972
	21	LENGTH OF PROJECT	MILES		0.54 mi.	TOTAL NO. BRIDGES 1

PART B *(To be completed by contractor - See instructions on reverse) (REMARKS: Attach plain sheet of paper)*

CARD	ITEM	DESCRIPTION	UNIT		
	30	LABOR		TOTAL MAN HOURS 570,349	GROSS EARNINGS 3,306,681
CARD B	22	TOTAL COST OF ALL MATERIALS AND SUPPLIES	DOL.	43,705	13,792,489
	9	PETROLEUM PRODUCTS	GAL.		57,963
	1	CEMENT	BBL.		
CARD C	2	AGGREGATES PURCHASED	TON.	3,688	
	92		CU. YD.		
	3	BITUMINOUS MATERIAL	GAL.		
	4	LUMBER	MFBM.		1,705
CARD D	5	TIMBER PILING	LIN. FT.		
	7	REINFORCING STEEL	LB.		15,657,272
	8	STRUCTURAL STEEL	LB.		25,940,000
	10	EXPLOSIVES	LB.		
CARD E	11	READY-MIXED CONCRETE	CU. YD.	726	65,647
	12	PREMIXED BITUMINOUS PAVING MATERIALS	TON	6,040	
	15	AGGREGATES PRODUCED	TON		
	95		CU. YD.		
CARD F	16	MISCELLANEOUS STEEL	LB.		17,048
	17	FENCING	LIN. FT.		
	18	GUARDRAIL	LIN. FT.		
	19	BRIDGE RAIL	LIN. FT.		20,817
CARD G	23	FINAL CONTRACT AMOUNT FOR SIGNS	DOL.		106,018
	24	FINAL CONTRACT AMOUNT FOR LIGHTING	DOL.		88,095

Blocks 48-70 to be completed by FHWA Washington Headquarters Personnel

48 – 52 | 53 – 61 | 62 – 70

CULVERT ITEMS

CARD	ITEM	SIZE (In.)	LGTH. (Lin. ft.)
CARD H	6	CORRUGATED STEEL CULVERT	
		8	50
CARD J	13	CONCRETE PIPE	
		8	3,250
		12	1,463
		15	54
		27	893
		30	219
CARD K	14	CLAY PIPE AND DRAIN TILE	
CARD L	25	CORR. ALUMINUM CULVERT	
CARD M	26	CAST IRON PIPE	
		6	470

FORM PR-47 PREVIOUS EDITIONS ARE OBSOLETE
(REV. 3-72)

7214

STATE COPY

TO BE COMPLETED BY FHWA

MONTHLY TRANSACTION NUMBER 9-55

PROJECT REPORT NUMBER

MODIFICATION NUMBER 1

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT

9-2-76

Form Approved; O M B No. 04-R2089

State Oregon

County Multnomah

Project Number I-405-8(20)303

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on May 26, 1969, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 20,800,661	$ 21,029,000
Federal funds	$ 19,136,000	$ 19,399,200
Other revisions		

This modification is made for the following reasons: To include approved final contract claim settlement.

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 15th day of September, 1976.

Oregon State Highway Division
(Official name of Highway Agency)

By A. F. Schmidt

Asst. ~~Deputy~~ State Highway Engineer
(Title)

By
(Title)

By
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By
(Division Administrator)
for G. L. Green

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

GPO 895-313

OREGON STATE HIGHWAY DIVISION
Salem, Oregon, September 7, 1976

Federal Aid Project
No. I-405-8(20)303

West Fremont Interchange Section
Stadium Freeway in Multnomah County

Revised Project Agreement Estimate.
Type Code X271

Interchange Structures (Sta. "FB3" 367+97.50 to Sta. 396+30)

Subtotal on previous estimate of May 13, 1969		$18,909,692.00
Additional approved item.		
Final contract claim settlement	Lump sum	429,000.00
	Subtotal	$19,338,692.00
	Engineering	1,690,308.00
	Total	$21,029,000.00

Length of Project . . . . 0.540 mile

Federal Funds		$19,399,200.00
State Funds		1,629,800.00
	TOTAL	$21,029,000.00

Group 1 - 100 percent
Prefixes 626-1001
626-1011
Contract No. 7214

n Approved; Budget Bureau No. 41-R2089.1

MONTHLY TRANSACTION NO. 6 -5	FORM PR-2 (REV. 3-66) U.S. DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS	STATE Oregon
PROJECT REPORT NO. 7	**FEDERAL-AID PROJECT AGREEMENT** *(PPM 21-7)*	COUNTY Multnomah
		PROJECT NO. I-405-8(20)303

The State, through its Highway Department, having complied, or hereby agreeing to comply, with the terms and conditions set forth in (1) Title 23, U.S. Code, Highways, (2) the Regulations issued pursuant thereto by the Secretary of Commerce and, (3) the policies and procedures promulgated by the Federal Highway Administrator relative to the above designated project, and the Bureau of Public Roads having authorized certain work to proceed as evidenced by the date entered opposite the specific item of work, Federal funds are obligated for the project not to exceed the amount shown herein, the balance of the estimated total cost being an obligation of the State. Such obligation of Federal funds extends only to project costs incurred by the State after the Bureau of Public Roads authorization to proceed with the project involving such costs.

PROJECT TERMINI

West Fremont Interchange Section of the Stadium Freeway Highway.

PROJECT CLASSIFICATION OR CLASS OF WORK	EFFECTIVE DATE OF AUTHORIZATION	APPROXIMATE LENGTH *(Miles)*
HIGHWAY PLANNING		▨
PRELIMINARY ENGINEERING		
RIGHTS-OF-WAY		▨
CONSTRUCTION	3-5-69	0.54
OTHER *(Specify)* Advance Construction Engrg.	12-6-68	

FUNDS

Pro Rata 92.25

ESTIMATED TOTAL COST OF PROJECT	FEDERAL FUNDS
$ 20,800,661	$ 19,136,000.00

The State further stipulates that pursuant to said Title 23, Regulations, and policies and procedures, and as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth on the reverse hereof.

OREGON STATE HIGHWAY DEPARTMENT
(Official name of Highway Department)

By

Assistant State Highway Engineer
(Title)

By ____________________

____
(Title)

By ____________________

____
(Title)

U.S. DEPARTMENT OF COMMERCE

BUREAU OF PUBLIC ROADS

By G L Greene
(Division Engineer)
for: R. E. Simpson

Date executed by Division Engineer MAY 26 1969

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

USCOMM-DC 26854-P66

Oregon State Highway Department

Federal Aid
Project No. I-405-8(20)303

WEST FREMONT INTERCHANGE SECTION OF THE STADIUM FREEWAY HIGHWAY IN MULTNOMAH COUNTY

Project agreement estimate.

Salem, Oregon, May 13, 1969

Type Code X271
Interchange Structures (Sta. "FB3 367+79.50 to Sta. 396+30)

Shoring, Cribbing, etc.	All Required		$ 155,000.00
Structural Excavation	16,600 cu. yd.	2.10	34,860.00
Structural Excavation Below Elevation Shown	1,600 cu. yd.	4.00	6,400.00
Special Backfill for Walls	270 cu. yd.	5.00	1,350.00
Drilling Pile Holes	350 lin. ft.	10.00	3,500.00
Furnish 10 BP 42 Steel Piling	3,960 lin. ft.	4.00	15,840.00
Furnish 12 BP 53 Steel Piling	17,380 lin. ft.	5.00	86,900.00
Furnish 14 BP 73 Steel Piling	101,765 lin. ft.	7.00	712,355.00
Drive 10 BP 42 Steel Piles	44 only	340.00	14,960.00
Drive 12 BP 53 Steel Piles	248 only	210.00	52,080.00
Drive 14 BP 73 Steel Piles	1,719 only	233.00	400,527.00
Splice 10 BP 42 Steel Piles	10 only	50.00	500.00
Splice 12 BP 53 Steel Piles	62 only	55.00	3,410.00
Splice 14 BP 73 Steel Piles	430 only	60.00	25,800.00
Class "A" Concrete (54,900 c.y.)	All Required		5,128,000.00
Class "A" Concrete in Retaining Walls	12 cu. yd.	70.00	840.00
Reinforcement (15,385,000 lb.)	All Required		2,060,000.00
Reinforcement in Retaining Walls	960 lbs.	0.15	144.00
Structural Steel (15,390,000 lb.)	All Required		9,462,105.00
Gore Point Protection	All Required		9,000.00
Metal Parapet Railing	20,830 lin. ft.	5.70	118,731.00
8-inch PVC Pipe	6,800 lin. ft.	7.00	47,600.00
Preparation of Slopes	710 sq. yd.	3.00	2,130.00
Slope Paving	710 sq. yd.	7.00	4,970.00

Illumination

Roadway Illumination Installation, Complete	All Required		$ 600.00
Structure Illumination Installation, Complete	All Required		88,000.00

Signing

Sign Support Footings	All Required		$ 6,750.00
Sign Bridge Structures	All Required		58,763.00
Structure Mounts	All Required		3,380.00
Cantilever Sign Structures	All Required		15,428.00
Single Sign Supports on Bridge Railings	All Required		1,145.00
Breakaway Sign Post	All Required		400.00
Sign Illumination Equipment	All Required		9,000.00
Painted Wood Sign Posts	All Required		150.00
Type "A" Signs in Place	1,830 sq. ft.	9.30	17,019.00
Type "C", "D" and "R" Signs in Place	195 sq. ft.	5.40	1,053.00
Type "M" Signs in Place	84 sq. ft.	6.00	504.00

Incidental Roadway Work

Clearing and Grubbing	All Required		65,000.00
Area Grading Work	All Required		6,000.00
Embankment in Place	3,400 cu. yd.	1.47	4,998.00
Finishing Roadbed and Slopes	All Required		500.00
Trench Excavation	7,800 cu. yd.	7.00	54,600.00
Special Backfill in Drains	10 cu. yd.	10.00	100.00
Furnishing and Placing Topsoil	260 cu. yd.	5.00	1,300.00
Watering	6 M-gal.	50.00	300.00
Pavement Replacement	370 lin. ft.	10.00	3,700.00
3/4" - 0 Material in Base	190 cu. yd.	4.00	760.00
Plant Mix Stone Base	4,600 ton	3.25	14,950.00
3/4" - 0 Aggregate in Prime Coat	34 cu. yd.	10.00	340.00
RC-250 Asphalt in Prime Coat	6 ton	75.00	450.00
Bituminous Base Mixture	230 ton	7.00	1,610.00
Asphalt in Bituminous Base Mixture	10 ton	30.00	300.00
Class "B" Asphalt Concrete	900 ton	7.50	6,750.00
8-inch Reinforced Concrete Pavement	280 sq. yd.	6.00	1,680.00
12-inch Reinforced Concrete Bridge End Panels	360 sq. yd.	28.70	10,332.00
Special Steel Reinforcement	20,000 lb.	0.15	3,000.00
Concrete Median Barrier	20 cu. yd.	100.00	2,000.00
8-inch Storm Sewer Pipe	4,000 lin. ft.	3.00	12,000.00
12-inch Storm Sewer Pipe	2,080 lin. ft.	4.00	8,320.00
27-inch Storm Sewer Pipe	980 lin. ft.	20.00	19,600.00
30-inch Storm Sewer Pipe	110 lin. ft.	20.00	2,200.00

8-inch Sanitary Sewer Pipe	50 lin. ft.	8.00	$ 400.00
12-inch Sanitary Sewer Pipe	50 lin. ft.	10.00	500.00
15-inch Sanitary Sewer Pipe	70 lin. ft.	15.00	1,050.00
8-inch Drain Pipe	160 lin. ft.	3.00	480.00
Concrete Manholes, 6 feet or less deep	8 only	400.00	3,200.00
Concrete Manholes, 6 to 12 feet deep	8 only	600.00	4,800.00
Concrete Manholes, over 12 feet deep	3 only	1,500.00	4,500.00
Concrete Inlets, Type B	58 only	200.00	11,600.00
Concrete Inlets, Type G-1	13 only	200.00	2,600.00
Concrete Inlets, Type P	3 only	150.00	450.00
Concrete Curbs	170 cu. yd.	58.00	9,860.00
Concrete Islands	15 cu. yd.	50.00	750.00
Concrete Walks and Surfacing	2,600 cu. yd.	4.00	10,400.00
Extra for A.C. Concrete Walks	300 cu. yd.	2.25	675.00
Guide Posts, Y-2	4 only	20.00	80.00
Salvage and Reinstall Guide Posts	10 only	30.00	300.00
Guard Rail, Type 2A	150 only	4.00	600.00
Barricade, Type 2	1,150 only	5.00	5,750.00
Guard Rail Terminal Anchors	1 only	100.00	100.00
Extra for Guard Rail Bridge Connection	1 only	80.00	80.00
Painting Metal Rail Members	1,300 lin. ft.	0.10	130.00
Temporary Protection and Direction of Traffic	All Required		65,000.00
			$18,893,289.00
Water Main Relocation (City of Portland)	All Required		$ 9,903.00
Flagging	All Required		5,000.00
Railroad Protection Cost	All Required		1,500.00
			$ 16,403.00
	Subtotal		$18,909,692.00
	10% Engr. & Cont.		1,890,969.00
	Total		$20,800,661.00

Length of Project 0.340 mile

Retained in Program Status

Remove Temporary Traffic Control Devices	All Required	$ 1,000.00
Tack Coat	All Required	50.00
Additional Pile Load Tests	All Required	10,000.00
Sign Covers	All Required	500.00
	Subtotal	$ 11,550.00
	10% Engr. & Cont.	1,155.00
	Total	$ 12,705.00

Summary of Funds

Description	Total Cost	Federal Funds	State Funds
Interchange Structures	$20,800,661.00	$19,136,000.00	$1,664,661.00
Retained in Program	12,705.00	11,000.00	1,705.00
Total	$20,813,366.00	$19,147,000.00	$1,666,366.00

State Funds for Const.: Chap. 175, Laws 1917; Chap. 31, Laws 1920;
Chap. 529, Laws 1959.

State Funds for Maint.: Chap. 529, Laws 1959.

The Gore Point protectors in this project should be designated as experimental and handled as set forth in PPM 20-6.3 and PPM 40-3.1 and CM#8-6-69.

WEST FREMONT INTERCHANGE

PROJECT NO. I-405-3(20)300

Railroad Protective Cost (P. T. R. R.)

Estimate: One Section for one month	
2.8324 x 8 hr. x 22 days	$ 498.50
Payroll additives 34%	169.49
	$ 667.99
State will pay up to	$ 700.00

Railroad Protective Cost (S. P. & S. R. R.)

Estimate: One Section F~reman for one month	
602.33 per mo.	$ 602.33
Payroll additives 39%	234.91
	$ 837.24
State will pay up to	$ 800.00

Water Main Relocation (City of Portland)

Labor	$5,081.10
Material and Paving	2,196.07
Equipment	1,334.87
Overhead (15%)	1,291.81
Total	$9,908.85

#7214

LEE JOHNSON
ATTORNEY GENERAL

JAMES W. DURHAM
DEPUTY ATTORNEY GENERAL

DEPARTMENT OF JUSTICE
TRIAL DIVISION
106 STATE OFFICE BUILDING
SALEM, OREGON 97310
TELEPHONE: (503) 378-6313

August 10, 1976

RECEIVED
STATE H'WY ENGR
AUG 10 '76
REFER TO
FOR

Info	Inves	R/D	D/R	Sign	Act	File

Mr. H. Scott Coulter
State Highway Engineer
129 State Highway Building
Salem, Oregon 97310

Re: Andersen-Hannan v. State
Marion County No. 86553
(L-7122)

Dear Mr. Coulter

As you know, we settled the above-mentioned case for the sum of $429,000.00 with interest from July 1, 1976. On August 2, 1976, you were notified by Mr. G. L. Green, Division Administrator, that the Federal Highway Administration would fully participate in the settlement.

Defendants have now been paid and their attorney has executed a Stipulation and Release in the form prepared by this office. We forward herewith a copy of the Stipulation and Release for the Administration file and for the Bridge Division file. This case is now concluded.

Sincerely

Les Hampton

Leslie B. Hampton
Asst. Chief Trial Counsel

ber
Enclosures
cc: Lee Johnson
Attorney General

Mr. Walter Hart
Bridge Engineer
329 State Highway Building
Salem, Oregon 97310

Mr. John D. Howard
Resident Engineer
1919 N.W. Thurman
Portland, Oregon 97209

IN THE CIRCUIT COURT OF THE STATE OF OREGON

FOR THE COUNTY OF MARION

H. A. ANDERSEN CO., an Oregon corporation, and HANNAN BROS. CONSTRUCTION, INC., an Oregon corporation, constituting a Joint Venture,

Plaintiff,

vs.

STATE OF OREGON, acting through its Transportation Commission, Department of Transportation, Highway Division (formerly Oregon State Highway Commission),

Defendant.

No. 86553

STIPULATION AND RELEASE

RECEIVED
AUG 5 [illegible]
ATTORNEY GENERAL
SALEM, OREGON

IT IS HEREBY STIPULATED AND AGREED between the plaintiff, acting by and through Norman B. Kobin, of its attorneys, and the defendant, acting by and through Leslie B. Hampton, of its attorneys, as follows:

I

Defendant will pay to plaintiff the lump sum of FOUR HUNDRED TWENTY NINE THOUSAND and No/100 ($429,000.00), in full settlement of the above-entitled case and in full settlement of any and all claims arising from or in any way connected with state contract No. 7214 between plaintiff and defendant or with plaintiff's performance of said contract.

II

IT IS EXPRESSLY AGREED that said $429,000.00 includes compensation for the claim or claims, if any, of plaintiff's agents or employees, subcontractors, materialmen or suppliers for this contract. Plaintiff further agrees to indemnify, hold harmless and defend defendant against any such claim or claims without costs to defendant.

III

Upon payment by defendant as aforesaid, plaintiff shall dismiss the above-entitled case with prejudice and without interest, costs or attorney fees to either party; provided, however, said $429,000.00 or any portion thereof not paid to plaintiff on or before July 1, 1976 shall bear interest at the rate of 6% per annum from July 1, 1976 until paid.

IV

By signing this stipulation, the undersigned attorneys represent and agree that they have obtained the necessary approval of this settlement from their respective clients.

DATED this 4th day of August, 1976.

KOBIN & MEYER

By Norman Kobin
Norman B. Kobin
Of Attorneys for Plaintiff

DEPARTMENT OF JUSTICE

By Leslie B. Hampton
Leslie B. Hampton
Assistant Chief Trial Counsel
Of Attorneys for Defendant

7214

Form FHWA 121 (Rev. 5-73)

13

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: July 30, 1976

In reply refer to: 1041DA

SUBJECT: Oregon Project I-405-8(20)303
West Fremont Interchange
H. A. Anderson Co., et al v. State of Oregon
Case No. 86553 (L7122; contract no. 7214)

FROM : G. L. Green, Division Administrator

TO : Mr. H. Scott Coulter, State Highway Engineer — not in Gen. files

Attorney General Lee Johnson's May 21 letter requested our approval of Federal-aid participation in the negotiated settlement of $429,000 for the subject claim.

Following careful review of the project records, evaluation of information received at meetings with State personnel and evaluation of the claim by the Federal Highway Administration legal counsel, I have determined that Federal funds may participate fully in the negotiated settlement amount of $429,000.

G. L. Green
G. L. Green

cc:
OR Atty Gen Lee Johnson

NOTED
E. S. HUNTER

CC Kenny
8-3-76

RECEIVED
STATE HWY ENGR
AUG 2 '76
REFER TO

FOR

Info	Inves	R/D	D/R	Sign	Act	File

7214

1859

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

ROBERT W. STRAUB
GOVERNOR

F. B. KLABOE
Administrator of Highways

February 10, 1976

NOTED
E. S. HUNTER

Mr. Glen Green
Division Administrator
Federal Highway Administration
P. O. Box 300
Salem, OR 97308

Attention Mr. H. A. Schell

Dear Mr. Green:

Paint Claim on East and West Fremont Intchgs.
Contracts 7310 and 7214
I-405-8(20)(21)(22)

On December 5, 1975 you requested information on three items relative to the inspection and painting of the structural steel for the East and West Fremont Interchanges. The information requested is not available in the State's files. We are reluctant to approach Canron or General Paint for this information at this time.

The State is presently engaged in serious negotiations with the respective contractors for the two projects. It is hoped that these negotiations will lead to settlement of the two claims. If these negotiations break down, we will attempt to get the information you request from the files of the other principals.

Very truly yours,

ORIGINAL SIGNED
WALTER J. HART
Walter J. Hart
Bridge Engineer

WJH:dh

cc E. S. Hunter /w/ encl.
C. T. Keasey /w/ encl.
L. B. Hampton /w/ encl.

RECEIVED
STATE HWY ENGR
FEB 11 '76
REFER TO
FOR

Info	Inves	R/D	D/R	Sign	Act	File

c 7214

NOTED
H. S. COULTER

Box 300
Salem OR 97308

December 5, 1975

Oregon Project I-405-8(20)(21)(22)
Paint Claim on the East & West Fremont Interchange
Kenneth Tator Report

G. L. Green, Division Administrator

Mr. F. B. Klaboe, Administrator & State Highway Engineer
ATTN: E. S. Hunter

We have read Mr. Tator's report of November 11, 1975 on the Inorganic zinc paint coating failure of the East and West Fremont Interchange steel. To us this report seems to be the only logical explanation of the failure to date. The paper clip test for hardness appears to be the one testing procedure that we did not understand the importance of.

In order for us to assess our current position, can you obtain the following information for us?

1. Have you recorded in your inspection record the results of the paper clip test during the period attributed to failure?
2. What actual amounts of zinc paint the phosphoric acid curing solution were applied during this period? (From Mr. Campbell's comments, it looks like this information is available in his files or in General Paint's files.)
3. Does the State, Canron, or General Paint have daily records of the sub-strata temperature, the ambient temperature, the relative humidity, and/or air circulation in the curing section of the paint building?

To date we do not know, formally, the State's position on this claim. We will continue to keep abreast of all information submitted but will not make any commitments until your position is submitted.

Original Signed By
VERNON V. CUSACK
Engineering Coordinator
G. L. Green

cc
OSHD (HART)
OSHD (COULTER)
FHWA (RUTLEDGE)

RECEIVED
DEC 8 1975
Office of
Assistant State Highway Engineer

HASchell:cp

#7214

1

KTA KENNETH TATOR ASSOCIATES
2020 MONTOUR ST. • CORAOPOLIS, PA. 15108 • (412) 262-2663

PROTECTIVE COATINGS (PAINT) CONSULTANTS: Testing • Instruments • Inspection • Corrosion Engineering

STATE OF OREGON
DEPARTMENT OF JUSTICE
SALEM, OREGON 97310
LEE JOHNSON
ATTORNEY GENERAL

E. S. [illegible]

F. B. Klaboe
Administrator
Highway Department
140 Highway Building
Salem, Oregon 97310

COATING FAILURE ON THE FREMONT BRIDGE
PORTLAND, OREGON

RECEIVED
STATE HWY ENG
NOV 17 '75
REFER TO
Hart - Barrie
CY FOR 11-18-75

Info	Inves	R/D	D/R	Sign	A-t
✓					

Kenneth B. Tator
Kenneth Tator Associates
2020 Montour Street
Coraopolis, PA 15108
November 11, 1975

INTRODUCTION

The following commentary can be considered a summary of my opinions regarding the failure of the zinc-rich coating applied to the Fremont Bridge. As you are aware, I was not involved in the pending litigation, nor was I aware of the coating failure until the latter part of 1974. Accordingly, I did not see the failing coating on the bridge, did not see Canron's coating facilities, nor do I have any first-hand knowledge of many of the details regarding the coating failure. However, on the other hand, there is a great deal of information regarding the failure available through correspondence, reports, and photographs. In studying the information supplied to me, I feel the following questions (phrased below with my summary answer) are most relevant to the coating failure. Accordingly, I shall direct my subsequent discussion along this outline.

1. Were the painting specifications for the bridge sufficient to obtain a suitably protective job?

   SUMMARY ANSWER: The painting portions of the specifications for the bridge provide sufficient latitude for a prospective bidder to select a coating system from a number of manufacturers, and to apply that system using the equipment, methods, and techniques he selects. The specifications, if followed, would produce a satisfactorily coating job sufficient for long term protection (fifteen or more years) to the bridge steel.

2. Did the aggressiveness of the Portland environment cause the coating failure?

   SUMMARY ANSWER: The Portland environment in the vicinity of the Fremont Street Bridge is relatively mild compared with many other environments where untopcoated inorganic zinc-rich coatings have performed satisfactorily. The Portland environment did not cause the massive failure of the zinc-rich coating on the bridge.

3. What did cause the failure?

   SUMMARY ANSWER: Insufficient cure of the zinc-rich primer prior to exposure to a wet weathering environment appears to have been the predominant factor.

4. Was Canron's application responsible for this insufficient cure?

   SUMMARY ANSWER: Deficient application of the curing accelerator of the post-cured RustBan 193 and exposure of RustBan 191 to the environment prior to its achieving sufficient self-cure are responsible for the failure.

1. WERE THE PAINTING SPECIFICATIONS FOR THE BRIDGE SUFFICIENT TO OBTAIN A SUITABLY PROTECTIVE JOB?

The painting portion of the specifications for the bridge--State of Oregon "Standard Specifications for Highway Construction" 1964 and Oregon State Highway Department "Special Provisions for Highway Construction and Supplemental Standards Specifications, Stadium Freeway, Unit A, East Fremont Interchange"--is typical in scope and content of a zinc-rich coating system specifications for large structures such as bridges, chemical plants, etc.

Zinc-rich primers are considered in the industry as being somewhat more difficult to apply and topcoat than more widely used conventional coatings such as alkyds, epoxy esters, and other synthetic resin barrier coatings. Accordingly, where a large amount of steel is to be coated with a zinc-rich primer most knowledgeable specifiers will include "red flag" conditions in the specifications to alert a prospective bidder that this coating is different than others he may be used to applying. Strict observance of these "red flag" conditions do not necessarily guarantee a satisfactorily protective job--although violation of any one of them will lead to a high probability of premature zinc-rich coating failure. The "red flag" conditions in the OSHD specification are typical of those included in other major zinc-rich coating specifications; such as the degree of blast cleaning, anchor pattern, number of coats and color, time of painting after blast cleaning, weather conditions for painting, requirements for agitation and spray application for the inorganic zinc-rich primer, etc. In fact, many of these requirements are standard requirements in any painting specification,regardless of the nature of the coating being applied, and can be considered "good painting practice." Accordingly, I cannot agree with Canron that the OSHD specifications are "design specifications carried to the 'nth degree."

The specifications for painting the bridge allow the prospective bidder to select the coating of their choice from recognized list of approved inorganic zinc-rich coatings. In fact, Canron solicited quotations from a large number of paint companies, and finally narrowed their choice down to three competitors. Ultimately, for reasons best known to them, they selected Enjay.

Except for OSHD specification requirements consistant with good general painting practice for zinc-rich primers, the specification, with regard to application procedures and techniques, is not restrictive. There is wide latitude within the specifications requirements for the applicator's choice of most application specifics, such as method of blast cleaning, choice of abrasive, choice of spray application equipment, air and fluid pressures, tips, caps and needles, environmental control, etc. The specification is designed to allow maximum coordination and interface between the coating applicator and coating manufacturer. This, of course, is important on any painting job.

I feel, then, that the OSHD specification is not a repressive, dogmatic, design specification--but, in fact, is a well written performance specification designed to emphasize or "red flag" potential problem areas in application and to achieve harmony and close working arrangements with the coating manufacturer and applicator. To this end, I feel the specification, if followed in letter and spirit, would result in a satisfactory long-term protective coating system applied to the Fremont Bridge.

2. DID THE AGGRESSIVENESS OF THE PORTLAND ENVIRONMENT CAUSE THE COATING FAILURE?

With all due respect to Mr. Saroyan, I do not feel the Portland environment caused the rapid, premature failure of the zinc-rich primer. While Mr. Saroyan's chemical explanation of SO_2 hydrolysis to form sulfuric acid which then attacks the zinc to form zinc sulfates is indeed correct; this reaction does not proceed as imagined as a result of a number of factors. The first is that, in my opinion, the SO_2 environment in Portland, when compared to many other cities, is relatively mild. Zinc-rich coating systems perform well in relatively severe chemical fume industrial environments such as those encountered in steel mills, chemical plants, fossil fuel power stations, etc., where the SO_2 concentration is expected to be considerably higher than that recorded in Portland.

Also, not all SO_2 in the environment would hydrolze ultimately into sulfuric acid which would contaminate the bridge. Any sulfuric acid formed by hydrolysis with rain water or atmospheric moisture would be very dilute with a pH very close to neutral. The zinc reaction products in neutral or near neutral environments are usually hydrated zinc oxides, zinc hydroxide, and zinc carbonates, all of which have an alkaline pH. This alkalinity tends to neutralize weak acids and eliminate or moderate their effect. Furthermore, other influences will reduce the rate of chemical attack on the zinc--such as passivation by formation of reaction products, partial encapsulation of the zinc by the sodium-lithium silicate binder, and chemical or physical polarization of both the anodic and cathodic reactions.

That the presence of SO_2 and other acid hydrolyzing gasses in the environment do not aggressively attack zinc-rich coatings or other materials is empirically determined by the abundantly successful use of susceptible materials of construction (such as galvanize, aluminum, and others) in the Portland area. RustBan zinc-rich primers exposed on test panels in the immediate vicinity of the bridge have not failed by rusting or excessive salt formation after a number of years' exposure. Industrial test stations KENNETH TATOR ASSOCIATES maintains in a steel mill in Pittsburgh and at a ferric chloride plant in Detroit reveal that zinc-rich coatings (including water based inorganic zinc-rich coatings) have unexpectedly good resistance to even relatively aggressive acidic environments, even when untopcoated. This does not mean to say that acid attack does not occur--but it definitely does not occur at such a fast rate that total failure of a zinc-rich primer can be expected within a matter of months as apparently was the case on the Fremont Bridge.

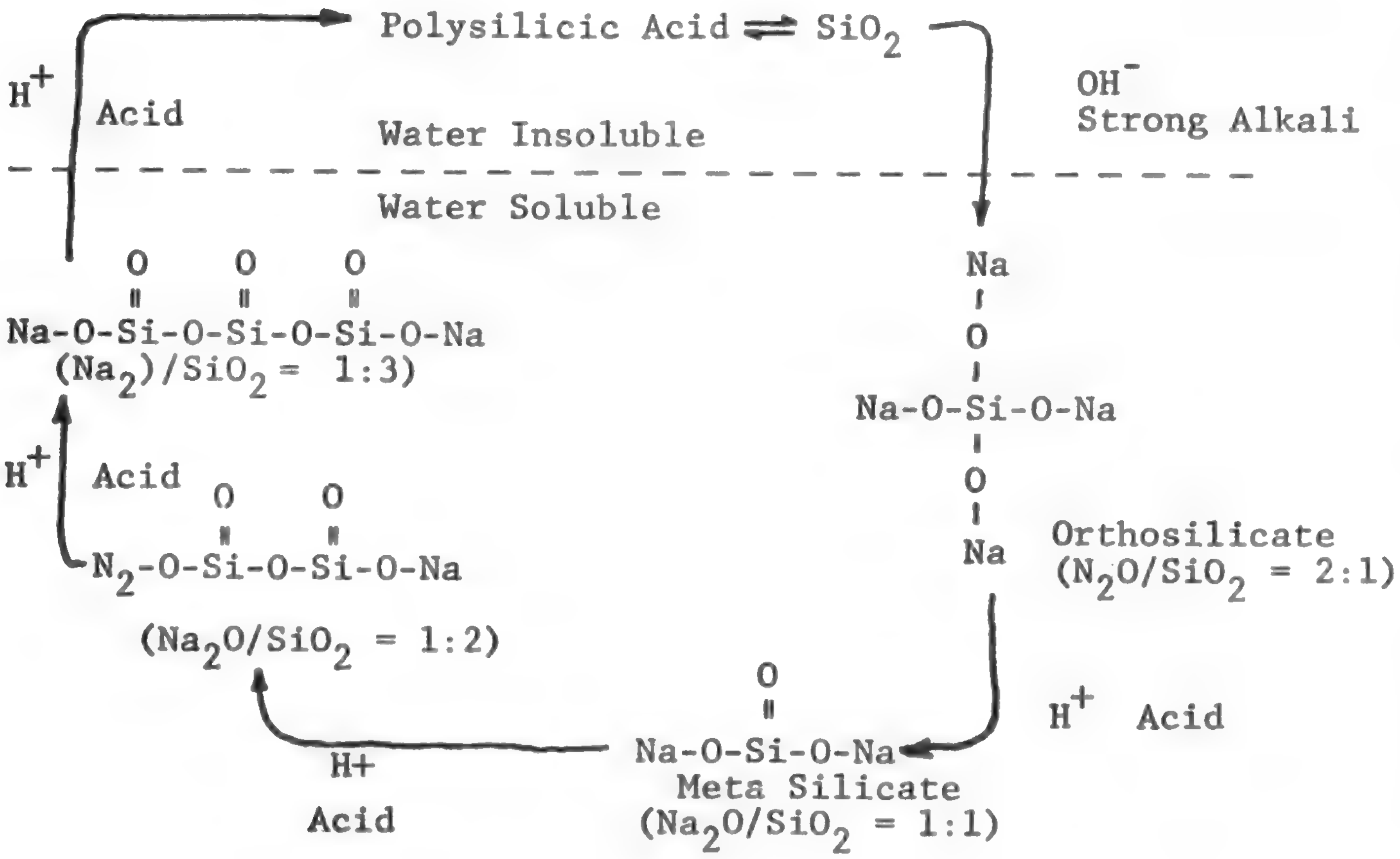
3. WHAT DID CAUSE THE FAILURE?

It is felt that insufficient cure of the RustBan 193 (and also the 191 that failed) was a predominating factor in the failure of the Fremont Bridge coating. The high alkalinity detected by Mr. Lowry (page 264 and elsewhere in his deposition); the softened zinc-rich coating (mentioned on page 186 and elsewhere); the apparent loss of zinc-rich primer thickness (pages 259, 359 and elsewhere); excessive zinc salting; ultimate rusting of the underlying steel substrate; and blistering and bubbling of the vinyl topcoat can best be explained by insufficient curing of the sodium-lithium silicate in the RustBan zinc-rich primers.

The chemistry of the curing reaction has been explained by Mr. Saroyan in a number of his reports. The chemistry, pretty much as he has written it, is summarized as follows:

Silicate Reactions

(Both Sodium and Lithium Silicate
React In A Similar Fashion)


Polysilicic Acid ⇌ SiO_2
H^+ Acid
Water Insoluble
OH^- Strong Alkali
Water Soluble
Na-O-Si-O-Si-O-Si-O-Na (with O= on each Si)
$(Na_2)/SiO_2 = 1:3)$
H^+ Acid
N_2-O-Si-O-Si-O-Na
$(Na_2O/SiO_2 = 1:2)$
Na-O-Si-O-Na
Orthosilicate
$(N_2O/SiO_2 = 2:1)$
H^+ Acid
Na-O-Si-O-Na
Meta Silicate
$(Na_2O/SiO_2 = 1:1)$
H+
Acid

These reactions indicate, as the ratio of Na_2O to SiO_2 decreases, the molecule becomes more water insoluble. To decrease the ratio (in order to achieve desired water insolubility) an acid is added in progressive steps. At the Na_2O/SiO_2 ratio of 1:3 sufficient insolubility is obtained to allow zinc-rich binder formulation. However, in order for complete water insolubility to occur additional acid must be added to the mixture. With RustBan 193, this would be done during the application of the post-curing accelerator 6851.

However, what Mr. Saroyan does not say, and what I feel may be a major issue, is the rate at which these reactions occur. Briefly, after application the water-base zinc-rich primer dries by water evaporation (this occurs quite rapidly, and within a period of only a few minutes in most cases the coating becomes dry to the touch). However, further water evaporation must occur in order to crystallize the water-glass matrix. As Mr. Saroyan points out, this matrix is still water soluble and must cure (by acid addition) to be water insoluble. With water-base self-curing zinc-rich coatings (such as RustBan 191) curing results from reaction with the environment. The reaction can take either or both of two forms: Bicarbonates or other additives are formulated into the paint which hydrolyze with moisture in the air to form carbonic acid; or a slower but efficient atmospheric reaction involving the hydrolysis of carbon dioxide with water to form carbonic acid. RustBan 191, to my knowledge, utilizes the CO_2 hydrolysis cure.

For post cured water-base coatings (such as RustBan 193) the direct addition of an acid such as sulfuric, hydrochloric or phosphoric is used. Phosphoric acid is preferred because it is a weaker acid and can be more readily buffered from attacking the zinc dust in the paint film, and as well it forms less soluble reaction products with the zinc. Ultimately however, the coating after completion of these reactions becomes hard, insoluble, and after excess free acid is removed, has a neutral pH. The coating is relatively impervious to water and in normal atmospheric environments (neutral or near neutral within a pH of hydrolyzing contaminants from approximately 5.5 to 10) will react to form various zinc carbonates, oxides, and hydroxides and to a lesser degree zinc chlorides, zinc sulphides, and sulfates, etc. (These latter reactions dependent primarily upon atmospheric contaminants.) As Mr. Saroyan points out, these salts are beneficial to the zinc-rich coating except when they are in excess.

However, it is evident that the salts formed on the bridge steel were far in excess. Furthermore, there is general agreement that the applied zinc-rich coating apparently lost thickness after application in the Canron painting facility, and upon later measurement in the Portland area. A soft zinc-rich coating was observable on occasion and in general the RustBan primer was so soft that the use of the paper clip test was discouraged as a measure of coating quality. Upon attempting to apply the vinyl topcoat, severe blistering and bubbling occurred. In my mind's eye, rather than being unexplainable phenomena--all this is indicative of water solubility of the sodium-lithium zinc-rich binder.

Excessive zinc salts, as Mr. Saroyan indicates, will result from aggressive atmospheric attack. However, they also will result if the zinc-rich binder is not insoluble and water can leach it, exposing or loosening zinc dust particles from the surface of the film. These particles will readily react in a neutral or near neutral environment to form zinc carbonate products (as opposed to zinc sulfate), and because they are loosely held, will wash from the surface as more binder leaches out during periods of precipitation. Mr. Lowry's observation of high surface alkalinity can be explained by the fact that the leached water soluble matter is highly alkaline, and after repeated washings, this alkalinity would still persist. Also, this same phenomena would explain the rather high loss of coating thicknesses occurring between Vancouver and Portland. It is our experience that zinc-rich coatings of all types, including water-base inorganic zinc-rich coatings, do not suffer significant loss of coating thickness under normal conditions in as little as three to six months. In fact, work that we have done indicates that there is no significant loss of thickness of water-base inorganic zinc-rich coatings after years of exposure in aggressive marine and salt environments. Furthermore, the paper clip test or rubbing with a metallic object such as a Canadian quarter has always been, in our opinion, a good field indication as to whether the degree of cure or insolubilization of the zinc-rich primer is adequate. If the coating is "punky", soft and cheese-like, the coating is not sufficiently cured. On the other hand, if a bright metallic luster is exposed upon rubbing, the coating is suitably cured. The "common paper clip test" as described in Steel Structures Painting Council Specification 12.00 "Guide to Zinc-Rich Coating Systems" was written to emphasize that properly cured zinc-rich coatings are hard and abrasion resistant.

Therefore, in my opinion, the major fault with the Fremont Bridge coating was that it was insufficiently cured and insolubilized. However, why this condition came to be is less certain.

After application of the zinc-rich coating, as mentioned previously, the coating "sets" by water evaporation culminating in crystallization of the silicate matrix. At this point, the zinc-rich coating is still water soluble and requires an acidic reaction to make it insoluble. However, the rate at which this crystallization phase of the curing occurs is dependent upon a number of things, including substrate temperature, ambient air temperature, relative humidity, and air circulation, as well as thickness of the coating at any given spot. Without questions, the longer one waits prior to application of the acidic post-curing agent the greater the probability of the crystallization reaction having occurred completely. If the acidic curing agent is applied prior to complete crystallization, the coating will be softened somewhat, and the acid will react with an "unset" binder, with the ultimate result that further crystallization, and homogeneity within the film will be permanently disrupted. Ultimately, upon exposure to precipitation, the film, not being completely insoluble, will leach, resulting in the observed failure.

In addition, the amount of accelerator applied is extremely important. I feel that the greatest error was in applying too little accelerator as opposed to applying too much. Application of too much accelerator will cause the phosphoric acid accelerator to flow down over the surface, and collect on horizontal surfaces. In time, the excess acidity at these areas of accelerator collection may attack the zinc-dust particles. However, I feel that this happened, if at all, only in localized, predictable areas.

Rather, however, it is felt that insufficient accelerator was applied in the Canron painting shop to provide adequate cure to the lithium-silicate zinc-rich to withstand the precipitation in Vancouver and Portland. The effect of insufficient post-curing acceleration application would be that after crystallization (presuming crystallization was complete at the time of the accelerator application) the coating would not be sufficiently insolublized to water prior to Canron's placing it in the atmosphere to await barge shipment to Portland.

The rate at which the acidic neutralization and insolublizing reaction occurs again is a function of a number of factors including substrate and ambient temperature, zinc-rich coating thickness, amount of accelerator applied, humidity, circulation, etc. After application of the curing solution, the members were moved into the Vancouver environment in a matter of minutes to as long as a few hours.

The time required for these coating deficiencies to become apparent is again based upon a variety of factors such as the degree or extent to which the curing reaction occurred, the interval between coating operations and first incident precipitation, and as always, temperatures and humidities and other ambient conditions. It is entirely conceivable that much of the defective coating would not be detected in the Canron facility as the only manifestation would be the relative softness of the coating (which was disregarded by everyone at the time), and surface alkalinity--

which apparently was not measured. The formation of zinc salts, and leaching of the silicate binder resulting in lessening coating thickness would be noticeable only upon continual exposure to the environment over a period of time.

Mr. Saroyan and others have indicated that rust staining over the zinc surface from the top flange of girder sections caused or accelerated the failure. Furthermore, a series of chemical equations were presented to substantiate this. Again, with due respect to Mr. Saroyan, I feel this rust staining neither caused nor measurably accelerated the coating failure. Light brown rust--the kind causing staining is Fe_2O_3--insoluble in water and fully oxidized in stable form. Accordingly, it will not readily react as dissociated Fe^{++}ions in solution as Mr. Saroyan indicates. While there is a dissimilar metal cell established, the rate of reaction is so slow, due to a number of reasons that it is of no practical consequence. In the field, I have never seen rust staining on a zinc-rich primer that I felt caused premature failure, or diminished film thickness.

In my opinion, this "deficient zinc-rich cure theory" is the most plausible explanation for the observed failure and "unexplainable" phenomena observed during the course of coating application and bridge construction.

4. WAS CANRON'S APPLICATION RESPONSIBLE FOR INSUFFICIENT CURE OF THE ZINC-RICH PRIMER?

Unfortunately, despite what I feel were Canron's intentions and best efforts, premature failure of the zinc-rich primer did occur. Furthermore, I feel this failure resulted from insufficient curing of the zinc-rich primer prior to exposure to moisture and weather.

With RustBan 191, this happened because the coated steel was placed outside in a cold and/or damp environment too soon after paint application. As mentioned previously, the period of time after application required for the coating to become water insoluble is dependent upon a variety of environmental factors.

The same reason for failure applies to RustBan 193 as well--except that a curing accelerator was applied after application of the zinc-rich paint in order to allow a more rapid exposure to the environment. If the curing accelerator were applied uniformly in the amount recommended by Enjay over the zinc-rich primed surface, no failure would have occurred on the Fremont Bridge. In retrospect, however, this did not happen and the observed failure resulted.

In my opinion it would be relatively easy to apply insufficient accelerator. Enjay's calculations and recommendation regarding application of the accelerator are most likely, based upon stoichiometric calculations. Mr. Saroyan, in one of his reports, had conducted similar calculations that are in apparent agreement with Enjay's recommendations. However, in the field, under what could be described as marginal lighting conditions, and application to a relatively complex surface of a "water clear" material; I feel it is almost inevitable to expect deficient application in some areas and too much accelerator applied in other areas. Psychologically, as it is common knowledge (even among painters) that phosphoric acid attacks zinc--and that RustBan 193 will self cure under the right conditions even if no accelerator were applied--perhaps less importance was placed upon application of the accelerator. There is, of course, no way to measure the application of the accelerator except by calculation of coverages which are only averages at best.

If the curing accelerator is applied as Enjay recommends--completely wetting the zinc-rich primer--the coating should be adequate to withstand exposure to a wet environment in as little as fifteen minutes or so. However, the longer the coating cures before environmental exposure, the better.

If the surface is not sufficiently wetted, the coating cannot suitably cure and insolubilize, and failure in the northwest winter environment is inevitable.

In addition to insufficient curing, it is felt that some failure can be attributed to skips, misses, and holidays inherent in any large structural steel coating job--and as well, coating thicknesses less than that specified. Mr. Lowery, in his deposition, has already allowed to some of these discrepancies.

#7214

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
P.O. Box 300
Salem, OR 97308

DATE: August 18, 1975

In reply refer to: 1041DA

SUBJECT: Oregon Projects I-405-8(20)303 and I-405-8(22)304, West Fremont Intch./East Fremont Intch

FROM : Glen L. Green, Division Engineer

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

Mr. Keasey's letter dated August 11, 1975, requested approval of the subject State Force Orders to establish accounting procedures for legal expenses incurred in litigation of claims on these projects. The total estimated cost is $140,000 with Federal participation of approximately $129,000.

In accordance with the Federal Aid Manual Vol. 1, Chapter 4, Section 2 these State Force Orders are approved effective October 1, 1974, establishing accounts for litigation costs.

G.K. Hossner for
G. L. Green

Enclosure
State Force Order No.s 7 and 22

cc:
Washington D.C. (HHO-32)

RECEIVED
STATE HWY ENGR
AUG 20 '75
REFER TO
FOR
Info | Inves | R/D | D.R | Sign | Act | F.g

[illegible]

NOTED
H.S. COULTER

DIVISION FILE CO

OREGON STATE HIGHWAY DIVISION

Order for State Force Work

APPLYING TO CONTRACT PROJECTS

Contract No. 7214

Order No. ....

Section W. Fremont Interchange

Date Oct. 1 1974

Highway Stadium Freeway

F.A.P. No. I-405-8(20)303

County Multnomah

Prefix 626-1011 Account No. 286-07

Description of Work To Be Done:

Work required for litigation

Approval Recommended as of 10-1-74

APPROVED EFFECTIVE DATE 10-1-74
Contingent upon modification of project agreement if additional funds are required.
BY E. J. Vaisch
TITLE for Dist. Engineer
DATE 8-18-75
FEDERAL HIGHWAY ADMINISTRATION

Location by Station Numbers:

West Fremont Ihterchange

Estimate of Quantities and Costs:

$60,000

Explanation:

Litigation initiated by Contractor.

INSTRUCTIONS

Submit a separate order for each piece or kind of state force work to be undertaken. Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs.

Five copies of the order are to be submitted to Salem. After final approval, two copies will be sent to the Regional Engineer and one copy to the Resident Engineer.

Project authorization $20,868,472

Present estimate of project cost, including $60,000 for work under this order $............

Expected under-run / over-run (amount) . . . . . . $............

Expected under-run / over-run (per cent) . . . .

Space to right of this line is for use of Salem Office

Submitted by: .... Resident Engineer

Approval Recommended: .... Regional Engineer

Approval Recommended: .... For: Construction Engineer or Bridge Engineer

Approved: .... Construction Engineer

SP 73600-734

#7214
Consult

Robert W. Straub
XXXXXXXXXX

March 18, 1975

Mr. Paul L. Heineman
Howard, Needles, Tammen & Bergendoff
1805 Grand Avenue
Kansas City, Missouri 64108

1135-J

Dear Mr. Heineman:

Fremont Bridge Approaches
Custom Duty on Shop Drawings

We concur with your position that custom duty on the shop drawings for the East and West Fremont Interchanges is the proper responsibility of the respective general contractors.

We will consider a request for reimbursement of your costs if the general contractors fail to acknowledge this responsibility and you are forced to make direct payment to avoid late penalties.

Very truly yours,

A. E. Johnson
Deputy State Highway Engineer

bc F. B. Klaboe
E. S. Hunter
H. S. Coulter (enc.)
C. T. Keasey "
Walt Hart
Jack Sollis "
R. N. Bothman "

WJH:dh ja

HOWARD NEEDLES TAMMEN & BERGENDOFF

RECEIVED
STATE HWY ENGR

MAR 6 '75

REFER TO
Walt Hart

FOR

Info	Inves	R/D	D/R	Sign	Act	File
		X				

cc Hunter

February 28, 1975

Oregon Department of Transportation
State Highway Building
Salem, Oregon 97310

Attention: Mr. A. E. Johnson
Deputy State Highway Engineer

Re: Fremont Bridge Approaches, Portland, Oregon
Custom Duty on Shop Drawings

[illegible]

Gentlemen:

Enclosed are copies of our correspondence with the two general contractors regarding the customs claim on the shop drawings. We understand the state is involved in lawsuits with the general contractors regarding other matters pertaining to the subject contract. Therefore we consider our approach to the general contractors, directly, might resolve this customs claim. Contrary to the statement in our letter to the contractors, we may elect to pay the custom claim within 30 days to avoid further penalties.

While we hope this approach will result in direct reimbursement of our costs, we are not excluding the future necessity of recovering this cost from the state under terms of our engineering agreement. We trust that you recognize this is a cost unfairly directed to us and beyond the scope of responsibility in our engineering agreement.

We will keep you fully informed, as we have in the past, of developments in this case.

Very truly yours,

HOWARD NEEDLES TAMMEN & BERGENDOFF

Paul L Heineman

Paul L. Heineman
Enclosures

RECEIVED
MAR 7 1975
BRIDGE DIVISION

NOTED
W. J. HART

Planning Engineering Architectural Services

1805 Grand Avenue, Kansas City, Missouri 64108, 816 474-4900

Partners H.C. Lamberton, Jr., James F. Finn, Paul L. Heineman, Joseph H. Looper, Robert O. Drange, Bernard H. Rottinghaus, Gerard F. Fox, William M. Wachter, George K. Erganian, Browning Crow, Charles T. Hennigan, Edgar B Johnson Daniel J Watkins, Daniel J Spigai
Associates Rex M. Whitton, Daniel J. Appel, William C. Meredith, Orrin Riley, Francis X. Hall, Robert W. Richards, Robert S. Coma, Don R. Ort, John L. Cotton, Donald A Dupies, Frederick H Sterbenz
Offices Alexandria, Va., Atlanta, Baltimore, Baton Rouge, Boston, Buffalo, Cape Coral, Fla Charleston, W Va Chicago Cleveland Dallas, Fairfield, N J, Indianapolis, Kansas City, Miami, Milwaukee, Minneapolis, Newark, Del., New York, Orlando, Overland Park, Kan., Philadelphia, Richmond, Seattle, Washington, D. C., Woodbridge, N. J., Lisbon, Rio de Janeiro

HOWARD NEEDLES TAMMEN & BERGENDOFF

February 28, 1975

Andersen-Hannan
P. O. Box 13367
3427 N. W. Halsey Street
Portland, Oregon 97213

Re: Fremont Bridge Approaches, Portland, Oregon
Custom Duty on Shop Drawings

Gentlemen:

On November 18, 1974, our firm received notice from the U. S. Customs Bureau demanding payment of approximately $9,800 for duties, penalties, etc. on structural steel shop drawings we received from your subcontractors on the referenced project. (Copy attached.)

By terms of your general contract for the project with the State of Oregon, all costs of preparing, shipping and processing of shop drawings are the responsibility of the Contractor or by his subcontractors to him. We had been assured by Canron that all custom requirements had been met.

Since the U. S. Customs Bureau had presented the claim to us directly with a time limit for reply, we had our attorneys prepare a petition opposing the claim. The reply to our petition reduced the claim to a total of about $1,200, a reduction of over $8,000 (see attached letter). Our attorneys indicate that further steps to oppose the claim to the Customs Bureau would cost more than the $1,200 with no assurance it would be decreased without even more costly litigation.

Although the final cost of resolving the matter is the responsibility of the General Contractor, we suggest it might be in the best of interests of all concerned for this reduced claim to be paid promptly. To avoid further penalty for delays, legal costs, etc., we are willing to pay the U. S. Customs Bureau claim on condition that you reimburse us that amount ($1,204.15) plus $1,200 for our legal costs and engineering salaries to date for opposing the original claim and securing the potential reduction of over $8,000. If we are not so authorized and reimbursed, we will not pay any claim until legally compelled to do so, thus presumably losing the potential reduction of $8,000. Then we would be obliged to institute legal proceedings to recover all of our costs. We are not aware of your contractual relations with your subcontractor,

Planning Engineering Architectural Services **1805 Grand Avenue, Kansas City, Missouri 64108, 816 474-4900**

Partners H C Lamberton Jr, James F Finn Paul L Heineman Joseph H Looper Robert O Orange Bernard H Rottinghaus Gerard F Fox, William M Wachter George K Ergenian Browning Crow Charles T Hennigan, Edgar B Johnson, Daniel J Watkins, Daniel J Spigai
Associates Rex M Whitton Daniel J Appel William C Meredith, Orrin Riley, Francis X Hall, Robert W Richards Robert S Coma, Don R Ort, John L Cotton, Donald A Dupies Frederick H Sterbenz
Offices Alexandria Va Atlanta Baltimore Baton Rouge Boston, Buffalo Cape Coral, Fla. Charleston, W Va Chicago, Cleveland, Dallas, Fairfield, N J, Indianapolis, Kansas City Miami Milwaukee Minneapolis Newark Del New York, Orlando Overland Park Kan Philadelphia, Richmond, Seattle, Washington, D. C. Woodbridge, N J Lisbon Rio de Janeiro

Canron, Ltd., who may be responsible to you for this claim.

Very truly yours,

HOWARD NEEDLES TAMMEN & BERGENDOFF

Paul L Heineman

Paul L. Heineman

PLH/mj

Enclosures

Copy to: Oregon Department of Transportation
State Highway Building
Salem, Oregon 97310
Attention: Mr. A. E. Johnson
Deputy State Highway Engineer

HOWARD NEEDLES TAMMEN & BERGENDOFF

February 28, 1975

Drake-Willamette
c/o R. E. Grant, Vice President, Construction
Donald M. Drake Company
1740 N. W. Flanders Street
Portland, Oregon 97209

Re: Fremont Bridge Approaches, Portland, Oregon
Custom Duty on Shop Drawings

Gentlemen:

On November 18, 1974, our firm received notice from the U. S. Customs Bureau demanding payment of approximately $9,800 for duties, penalties, etc. on structural steel shop drawings we received from your subcontractors on the referenced project. (Copy attached.)

By terms of your general contract for the project with the State of Oregon, all costs of preparing, shipping and processing of shop drawings are the responsibility of the Contractor or by his subcontractors to him. We had been assured by Canron that all custom requirements had been met.

Since the U. S. Customs Bureau had presented the claim to us directly with a time limit for reply, we had our attorneys prepare a petition opposing the claim. The reply to our petition reduced the claim to a total of about $1,200, a reduction of over $8,000 (see attached letter). Our attorneys indicate that further steps to oppose the claim to the Customs Bureau would cost more than the $1,200 with no assurance it would be decreased without even more costly litigation.

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Planning Engineering Architectural Services **1805 Grand Avenue, Kansas City, Missouri 64108, 816 474-4900**

Partners H C Lamberton Jr James F Finn, Paul L Heineman, Joseph H Looper, Robert O Drange, Bernard H Rottinghaus, Gerard F Fox, William M Wachter, George K Eganian Browning Crow Charles T Hennigan, Edgar B Johnson Daniel J Watkins, Daniel J Spigai
Associates Rex M Whitton Daniel J Appel William C Meredith, Orrin Riley Francis X Hall, Robert W Richards, Robert S Coma, Don R Ort, John L Cotton, Donald A Dupies Frederick H Sterbenz
Offices Alexandria Va Atlanta Baltimore Baton Rouge Boston Buffalo, Cape Coral, Fla, Charleston, W Va, Chicago Cleveland, Dallas, Fairfield, N J, Indianapolis Kansas City Miami Milwaukee Minneapolis Newark Del New York, Orlando Overland Park, Kan, Philadelphia Richmond Seattle, Washington, D C Woodbridge N J, Lisbon Rio de Janeiro

Canron, Lt., who may be responsible to you for this claim.

Very truly yours,

HOWARD NEEDLES TAMMEN & BERGENDOFF

Paul L Heineman

Paul L. Heineman

PLH/mj

Enclosures

Copy to: Oregon Department of Transportation /
State Highway Building
Salem, Oregon 97310
Attention: Mr. A. E. Johnson
Deputy State Highway Engineer

DEPARTMENT OF THE TREASURY
U.S. CUSTOMS SERVICE
St. Louis, Missouri

February 12, 1975

REFER TO
ENF-4-02-D:C&V DKH

Ronald B. Stang
Linde, Thmson, Van Dyke, Fairchild & Langworthy
900 Walnut Street
Kansas City, Missouri 64106

Re: St. Louis Customs District
Case: 75-4501-10046
Dated: November 4, 1974

Dear Mr. Stang:

The petition filed by you on behalf of Howard, Needles, Tammen & Bergendoff has been reviewed.

In 1969, 1970, 1971 the petitioner received shop drawings through the mail from Japan and Canada. These importations were not presented to Customs for payment of duties due.

The investigation of this case indicates there was no deliberate attempt on the part of the importer to avoid the payment of the duties due, but this happened through simple negligence. It is the decision of this office to remit the forfeiture upon payment of $800.00; plus $404.15, the amount that originally should have been paid as duty. The drawings were given a nominal value for duty purposes.

Your petition stated a desire to meet with Customs representatives to discuss this matter. Such a meeting would be held at the Customs office in St. Louis and may be arranged by contacting this office.

If you are not satisfied with this decision you may file a supplemental petition within thirty days in accordance with Section 171.33 of the Customs Regulations. The supplemental petition will be forwarded to the Regional Commissioner of Customs, Chicago, Illinois for consideration.

Sincerely yours,

William L. Duncan

William L. Duncan
District Director

RECEIVED
[illegible]

December 19, 1974

Mr. James C. McCarthy, Special Agent
Bureau of Customs
U.S. Department of the Treasury
511 N. W. Broadway
Portland, OR 97209

Dear Mr. McCarthy:

Fremont Bridge, East and West Approaches
Contracts 7214 and 7310
Custom Duty on Shop Drawings

I have just recently reviewed this file again after receiving a letter from Howard, Needles, Tammen and Bergendoff. It would appear that perhaps the relationships of the parties have not been clearly established in our prior correspondence.

The consultant for the Highway Division (Howard, Needles, Tammen & Bergendoff) had the responsibility of not only designing the East and West Fremont Interchanges, but also of checking the shop drawings supplied by the general contractor or his subcontractors to ensure they were correct. The only relationship Howard, Needles, Tammen and Bergendoff had to the shop drawings was their responsibility for checking and distributing those drawings prepared by others. The drawings in question were prepared by the steel fabricator in Japan or Canada at the direction of the general contractor. They were submitted by the steel fabricators directly to Howard, Needles, Tammen and Bergendoff. After review and checking by Howard, Needles, Tammen and Bergendoff, the drawings were distributed to the State, the contractor, and the steel fabricators for their use during fabrication of the steel.

It would seem that since they did not prepare the drawings, and were in no way responsible for the preparation of the drawings, they should not be responsible for the custom duties. Rather, the general contractor or the subcontractor, or possibly the steel fabricators, would be the ones who should be paying the custom duties, as they were required to supply these drawings as a part of the general contract for the bridge approaches.

At no time did Howard, Needles, Tammen and Bergendoff have title to the drawings nor were they involved in the preparation, nor were they required to prepare the drawings. They were merely to check them for accuracy and distribute them for use by the general contractor and the State.

I would suggest that perhaps you should contact the contractors on the job relative to the collection of this duty. The contractor for the West Fremont Interchange was Andersen-Hannan, P. O. Box 13367, 3427 N. W. Halsey Street, Portland, Oregon, 97213; the contractor for the East Fremont Interchange was Drake-Willamette, c/o R. E. Grant, Vice President-Construction, Donald M. Drake Company, 1740 N. W. Flanders Street, Portland, Oregon, 97209.

Canron, Ltd., of Vancouver, B.C., one of the foreign fabricators of steel for the Fremont Interchanges, was aware in November of 1970 of the potential of custom duty assessment. We have a letter from Canron on that date requesting drawing cost information for the purpose of custom duty assessment.

Very truly yours,

A. E. Johnson
Deputy State Highway Engineer

Enc.

cc/enc.
Mr. William L. Duncan
District Director
Bureau of Customs
Department of the Treasury
120 S. Central, Suite 403
St. Louis, Missouri 63105

Howard, Needles, Tammen
and Bergendoff
1805 Grand Avenue
Kansas City, Missouri 64106

bc
F. B. Klaboe
H. S. Coulter (enc.)
Walter J. Hart "
Jack Sollis "
R. N. Bothman "

WJH:dh ja

HOWARD NEEDLES TAMMEN & BERGENDOFF

Bernie Please advise me. J

RECEIVED
NOV 26 1974
LEGAL

November 21, 1974

Mr. F. B. Klaboe
Administrator and State Highway Engineer
Oregon Department of Transportation
State Highway Building
Salem, Oregon 97310

Re: Fremont Bridge Approaches

Dear Mr. Klaboe:

Please note the attached copy of a notice we received from the U. S. Customs Bureau. Based on Section 5 of the Standard Specifications, "The contract price shall include the cost of furnishing all working drawings . . .". Since we received these drawings as an agent of the State, and the U. S. Customs Bureau is billing us directly, we request reimbursement for the amount specified.

I have asked Jack Kopetz to call Mr. Hart to discuss this further in a few days after you have had a chance to review the matter.

Very truly yours,

HOWARD NEEDLES TAMMEN & BERGENDOFF

Paul L Heineman
Paul L. Heineman

PLH/vo

Copy to:
Mr. Walter J. Hart

RECEIVED
STATE HWY ENGR
DEC 26 '74
TO ac
FOR
Sig. Info Dir Sign Act File

Planning Engineering Architectural Services **1805 Grand Avenue, Kansas City, Missouri 64108, 816 474-4900**

Partners H.C. Lamberton, Jr., James F. Finn, Paul L. Heineman, Joseph H. Looper, Robert O. Orange, Bernard H. Rottinghaus, Gerard F. Fox, William M. Wachter, George K. Erganian, Browning Crow, Charles T. Hennigan, Edgar B. Johnson, Daniel J. Watkins, Daniel J. Spigai
Associates Rex M. Whitton, Daniel J. Appel, William C. Meredith, Orrin Riley, Francis X. Hall, Robert W. Richards, Robert S. Coma, Don R. Ott, John L. Cotton, Donald A. Dupies, Frederick H. Sterbenz
Offices Alexandria Va. Atlanta Baltimore Baton Rouge Boston Buffalo Cape Coral Fla. Charleston W. Va. Chicago Cleveland Dallas Fairfield N.J. Indianapolis Kansas City, Miami, Milwaukee, Minneapolis, Newark, Del. New York, Orlando Overland Park Kan., Philadelphia, Richmond, Seattle, Washington D.C. Woodbridge, N.J. Lisbon, Rio de Janeiro

NOTICE OF PENALTY OR LIQUIDATED DAMAGES INCURRED AND DEMAND FOR PAYMENT

Case Number: 75-4501-10046

Port Name and Code: 4501 Kansas City, Mo.

Investigation File No.: KC08GM493014

TO:

Howard, Needles, Tammen & Bergendoff
1805 Grand Avenue
Kansas City, Missouri

DEMAND IS HEREBY MADE FOR PAYMENT OF $ 9,413.00, representing ☐ Penalties or ☐ Liquidated Damages assessed against you for violation of law or regulation, or breach of bond, as set forth below:

In 1969, 1970 and 1971 you received 5131 shop drawings by mail from Canada and Japan without paying the duty which was legally due. In addition to this penalty a demand is also made for the accrued duties of $404.15.

(continue facts on reverse)

LAW OR REGULATION VIOLATED	BOND BREACHED
19 United States Code, Section 1592	

DESCRIPTION OF BOND (if any)	Form Number	Amount	Date
		$	

Name and Address of Principal in Bond

Name and Address of Surety on Bond	Surety Identification No.

If you feel there are extenuating circumstances, you have the right to object to the above action. Your petition should explain why you should not be penalized for the cited violation. Write the petition as a letter or in legal form; submit in (duplicate) (triplicate), addressed to the Commissioner of Customs, and forward to the District Director of Customs at 120 S. Central, Suite 408, St. Louis, Missouri 63105

Unless the amount herein demanded is paid or a petition for relief is filed with the District Director of Customs within 60 days from the date hereof, further action will be taken in connection with your bond or the matter will be referred to the United States Attorney.

Signature	Title	Date
By: William L. Duncan	District Director	11/8/74

DEPARTMENT OF THE TREASURY
BUREAU OF CUSTOMS
23.11, 23.25, C M

Customs Form 5955-A (3-22-73)
☆GPO 717-423

#7014

FILE: PER 7-4

Salem, OR 97310

December 27, 1974

Leslie B. Hampton
Assistant Chief Trial Counsel
Department of Justice
106 State Office Building
Salem, OR 97310

Carl Hobson
Assistant Personnel Director

Request of December 24, 1974
For Personnel Involved With the Fremont Bridge

Listed below is the information you requested in your letter of December 24, 1974.

NAME	POSITION IN 1969	CHANGES
Albert E. (Al) Johnson	HE 8, Materials Engineer, Portland	July 1, 1970, Promoted to HE 9, Assistant State Highway Engineer, Salem January 15, 1973, Promoted to Deputy State Highway Engineer, Salem (Current Position)
Theodore C. Roake	HE 7, Assistant Bridge Engineer, Salem	Retired April 30, 1970 Last known address: 16504 S.W. Lake Forrest Blvd., Lake Forrest, OR 97034
Leonard Wallace, Jr.	HE 7, Bridge Design Engineer, Salem	Current Position
Cecil A. Gardner	HE 5, Bridge Office Supervisor, Salem	Retired January 7, 1972 Last known address: 2010 Court Street, N.E. Salem, OR 97301
Adrian D. Olson	HE 6 Preliminary Design Engineer, Salem	September 1, 1970, Promoted to HE 7, Preliminary Design Engineer (Current Position)

NAME	POSITION IN 1969	CHANGES
Oscar A. White	Retired	Retired June 30, 1979 Last known address: 660 W. Clackamas Circle, Woodburn, OR 97071
H. Dean Mandrell	Materials Testing Engineer 2, Engineering Supervisor, Salem	May 31, 1974, Resigned Last known address: 4055 Alana Avenue S.E. Salem, OR 97302
James E. Chidsey	HE 4, Senior Specifications Engineer, Salem	July 14, 1969, Promoted to HE 5, Structural Quality Control Engineer February 1, 1973, Promoted to HE 6, Utilities Engineer (Current Position)
Ed J. Rief	HE 4, District Inspection Engineer, Portland	Current Position
Daniel J. Barbee	HE 8, Design Engineer	August 31, 1970, Retirement Last known address: 1090 Donna Avenue N.E. Salem, OR 97303
Duane O. Christiansen	HE 6, Supervisor, Bridge Design Engineer	Current Position
Clarence G. Swenson	HE 6, Specifications Engineer	Current Position
Lawrence E. George	HE 8, Traffic Engineer	Current Position

If you need any further information or assistance, please let us know.

CH:wc

LEE JOHNSON
ATTORNEY GENERAL

JAMES W. DURHAM
DEPUTY ATTORNEY GENERAL

DEPARTMENT OF JUSTICE
TRIAL DIVISION
106 STATE OFFICE BUILDING
SALEM, OREGON 97310
TELEPHONE: (503) 378-6313

December 24, 1974

Mr. Gene Huntley, Director
Personnel Section
511 State Highway Building
Salem, Oregon 97310

Re: Anderson - Hanna v. State of Oregon
Case No. 86553 (L 7122)

Dear Gene

I forward herewith a list of OSHD personnel who were involved in one way or another with the planning and construction of the Fremont Bridge.

As you probably know, we have pending litigation with both the east approach and west approach contractors. We are currently in the "discovery stage", with the usual exchange of records and information. The time period involved is from July, 1969 to the present. We need the following information: Job position as of July, 1969; significant changes in the job and title of the individuals and the date thereof; and finally, the current position of the individuals or the date of their retirement from the Department.

Please have one of your people supply me the information at the earliest possible date.

Sincerely

Les Hampton

Leslie B. Hampton
Assistant Chief Trial Counsel

ph

Enclosure

HIGHWAY DEPT.
DEC 26 1974
PERSONNEL

Re: Anderson-Hannan v. State of Oregon (West Fremont Interchange)

LISTING OF OSHD PERSONNEL

Al Johnson -

✓ Theo. C. Roake - 564 Rose St N.E, Salem 97301

✓ Alfred Rear -

L. L. Wallace -

✓ C. A. "Slim" Gardner - 2010 Court NE Salem 97301

Adrian Olson -

✓ Oscar White - 660 W. Clackamas Circle
Woodburn 97071

✓ Dean Mandrell -

J. E. Chidsey -

Ed Rief -

✓ D. J. Barbee - 1090 Donna Ave NE, Salem 97303

Duane O. Christensen -

Clarence "Swede" Swenson -

L. E. George -

RECEIVED
DEC 6 1974
ATTORNEY GENERAL
SALEM, OREGON

DIRECTOR'S FILE
[illegible]
[illegible]
9.84 [illegible]

11-13-74

In the Circuit Court of the State of Oregon

FOR THE COUNTY OF Marion

H. A. Andersen Co., et al, Plaintiff,
vs.
State of Oregon, et all, Defendant.

Case No. 86553

CIVIL SUBPENA*

TO: George Baldwin, Director of the Department of Transportation

IN THE NAME OF THE STATE OF OREGON:

You hereby are required to appear in the Circuit Court of the State of Oregon for the County of Marion, *at Room No.* 125 *of the* ~~County Court House~~ State Highway Bldg. *of said county in the City of* Salem, *Oregon, on the* 3rd *day of* October, 1974, *at* 10 *o'clock* A. *M., to testify as a witness in the above entitled cause on behalf of* Plaintiffs, and to bring with you the books, records, documents and other things listed on appendix "A" attached hereto and incorporated herein, in your custody.

Attorney of record of the party to the above action, suit or proceeding in whose behalf the witness is required to appear

Address 610 S. W. Alder - Suite 800, Portland, OR 97205 *Phone* 223-1107

I hereby certify that the foregoing is a true copy of the original subpena in the above entitled cause as the same appears in my hands for service.

If an officer, state title.

Proof of service made by person other than sheriff.

STATE OF OREGON, County of .... ss:

I, ..., being first duly sworn, depose and say that the within subpena was delivered to me for service on ...., 19....; that I served the same within the county and state aforesaid on the .... day of ...., 19........ on the within named .... by delivering to him personally a copy thereof and giving or offering to him at the same time the fees (named below) to which he is entitled for travel to and from the place designated in said subpena and one day's attendance: that I am a competent person over the age of 18 years.

Subscribed and sworn to before me this .... day of ...., 19........

Notary Public for Oregon

(SEAL)

My Commission expires

Proof of service if made by sheriff.

STATE OF OREGON, County of .... ss:

I hereby certify that the within subpena was delivered to me for service on ...., 19........; that I served the same within the county and state aforesaid on the .... day of ...., 19........, on the within named .... by delivering to him a copy thereof personally and giving or offering to him at the same time the fees and mileage (named below) to which he is entitled for travel to and from the place designated in said subpena and one day's attendance.

Sheriff of .... County, Oregon
By .... Deputy

Witness fees	$
Mileage	$
Paid by	$

For Civil Subpena issued by clerk, see S-N Form No. 255.

CIVIL SUBPENA

to Baxxle #5 [illegible] 11-13-74

* (Statutory spelling, Laws 1949 ch. [illegible])

FORM No. 941—Civil Subpena—Circuit Court—Issued by Attorney
SN

STEVENS-NESS LAW PUB., CO., PORTLAND, OR. 97204

BW
10.21

In the Circuit Court of the State of Oregon

FOR THE COUNTY OF Marion

H. A. Andersen Co., et al, Plaintiff,
vs.
State of Oregon, et all, Defendant.

Case No. 86553

CIVIL SUBPENA*

TO: Fred B. Klaboe, Administrator of Highways

IN THE NAME OF THE STATE OF OREGON:

You hereby are required to appear in the Circuit Court of the State of Oregon for the County of Marion*, at Room No.* 125 *of the* ~~County Court House~~ State Highways Bldg. *of said county in the City of* Salem*, Oregon, on the* 3rd *day of* October 10-24-7 *19*74*, at* 10:30 *o'clock* A *M., to testify as a witness in the above entitled cause on behalf of* Plaintiffs, and to bring with you the books, records, documents and other things listed on appendix "A" attached hereto and incorporated herein, in your custody.

Attorney of record of the party to the above action, suit or proceeding in whose behalf the witness is required to appear.

Address 610 S. W. Alder - Suite 800, Portland, OR 97205 *Phone* 223-1107

I hereby certify that the foregoing is a true copy of the original subpena in the above entitled cause as the same appears in my hands for service.

If an officer, state title.

Proof of service made by person other than sheriff.

STATE OF OREGON, County of .... *ss:*

I, ...,
being first duly sworn, depose and say that the within subpena was delivered to me for service on ...., *19*......; *that I served the same within the county and state aforesaid on the* ...... *day of* ...., *19*...... *on the within named* .... *by delivering to him personally a copy thereof and giving or offering to him at the same time the fees (named below) to which he is entitled for travel to and from the place designated in said subpena and one day's attendance: that I am a competent person over the age of 18 years.*

....

Subscribed and sworn to before me this ...... *day of* ...., *19*......

....
Notary Public for Oregon

(SEAL)

My Commission expires ....

Proof of service if made by sheriff.

STATE OF OREGON, County of .... *ss:*

I hereby certify that the within subpena was delivered to me for service on ...., *19*......; *that I served the same within the county and state aforesaid on the* ...... *day of* ...., *19*......, *on the within named* .... *by delivering to him a copy thereof personally and giving or offering to him at the same time the fees and mileage (named below) to which he is entitled for travel to and from the place designated in said subpena and one day's attendance.*

Sheriff of .... *County, Oregon*
By .... *Deputy*

Witness fees	$
Mileage	$
Paid by	$

For Civil Subpena issued by clerk, see S-N Form No. 255.

CIVIL SUBPENA

* (Statutory spelling, Laws 1969 ch. 383 amending ORS 44.110).

APPENDIX A

1. Plans, specifications, standard specifications, technical provisions and all contract documents for OSHD contract #7214 for the construction of West Fremont Interchange of Stadium Highway in Multnomah County, Oregon.

2. All technical provisions, specifications, standards and other documents, provisions or writings of whatsoever nature incorporated or claimed to be incorporated by reference in said OSHD #7214.

3. All contracts or agreements of whatsoever nature entered into by the Department of Transportation or other State agencies for design, engineering, planning, testing or other similar services relating to the construction of the West Fremont Interchange or otherwise relating to the construction of the Fremont Bridge, including all contract documents pertinent to each contract or agreement.

4. Any and all correspondence, memoranda, minutes, reports or other communication or record of communication of whatsoever nature relating to surface preparation of steel, surface coating of steel, painting of steel, shop coat painting of steel, finish coat painting of steel or other materials, methods, procedures or testing of same, for planning or construction of the Fremont Bridge, the West Fremont Interchange or the East Fremont Interchange, at any time since January 1, 1968, between the Department of Transportation, Highways Division or the predecessor, and each of the following:

   A. Anderson-Hannon, Joint Venture

   B. Drake Willamette, Joint Venture

   C. Canron, Ltd.

   D. Enjay Chemical Company

   E. Carboline Company

   F. Mobil Oil Company

   G. United States Department of the Navy

   H. United States Federal Highway Administration (or Bureau of Public Roads)

   I. Howard, Needles, Tammen & Burgendorff

   J. Pittsburgh Testing Lab

K. Harlan Associates, Inc.

L. Can Test, Ltd.

M. John R. Saroyan

N. Industrial Painting and Sand Blasting Co.

O. Klass Bros.

5. Any and all tests, analysis, reports, data, measurements, photographs or other evidence or pieces of paper of whatsoever nature describing or relating to paint prime coat for steel for the Fremont Bridge, West Fremont Interchange or East Fremont Interchange from January 1, 1969 to date.

6. Any and all tests, analysis, reports, data, measurements, photographs or other evidence or pieces of paper of whatsoever nature describing or relating to paint finish coat for steel for the Fremont Bridge, West Fremont Interchange or East Fremont Interchange from January 1, 1969 to date.

7. Any and all memoranda, reports, minutes or other writings of whatsoever nature prepared by employees or other agents or representatives of the Department of Transportation, Division of Highways or the predecessors of either of them discussing or otherwise relating to paint prime coat or paint finish coat for steel on the Fremont Bridge, the West Fremont Interchange or the East Fremont Interchange, or claims presented by contractors on any of said projects relating thereto.

8. Your personal files relating to paint prime coat or paint finish coat for steel on the West Fremont Interchange or related projects.

IN THE CIRCUIT COURT OF THE STATE OF OREGON

FOR THE COUNTY OF MARION

H. A. ANDERSEN CO.,
an Oregon corporation, and
HANNAN BROS. CONSTRUCTION, INC.,
an Oregon corporation,
constituting a Joint Venture,

Plaintiffs,

vs.

STATE OF OREGON, acting through
its Transportation Commission,
Department of Transportation
Highway Division (formerly Oregon
State Highway Commission),

Defendant.

No. 86553

NOTICE OF DEPOSITION

TO: State of Oregon, acting through its Transportation Commission,
Department of Transportation, Highway Division, and
John Leahy, its attorney:

PLEASE TAKE NOTICE that the undersigned will take the depositions of George Baldwin and Fred B. Klaboe, as managing agents of defendant, before a person duly authorized to administer oaths, at 10:00 o'clock A. M. and 10:30 o'clock A. M., respectively, on October 3, 1974, at Room ~~125~~ 120, State Highways Building, Salem, Oregon. The depositions will continue from day to day until completed. You are invited to attend and cross-examine. Said witnesses are requested to bring with them the books, records, documents and other things listed on Appendix A attached hereto and incorporated herein.

KOBIN & MEYER

By: /s/ Daniel J. Seifer
Daniel J. Seifer
610 S. W. Alder - Suite 800
Portland, Oregon 97205
Telephone: 223-1107

Attorneys for Plaintiffs

7214

CONT 7214, 7310 & 11

October 31, 1974

Mr. Glen Green
Division Engineer
Federal Highway Administration

Dear Mr. Green:

Contract Litigation
East and West Fremont Interchanges
Contracts 7214, 7310, and 7311

As you are aware, the contractors for the East and West Fremont Interchanges have filed actions seeking approximately $2,290,000 and $1,295,000 respectively. The early legal proceedings will involve the finalizing of the pleadings with examination of records and the taking of depositions. The State's case will be presented by Mr. Leahy and Mr. Hampton of the State Attorney General's office.

It is our opinion, and that of our legal staff, that it will be necessary to obtain the services of independent experts to advise us on the facts and to testify in the probable litigation. We have tentatively selected two such experts—Mr. Kenneth Tator and Dr. Meredith.

Mr. Tator is an experienced consulting engineer. A copy of his qualifications is attached. His name, along with two others, was furnished by the National Zinc Institute. The qualifications of the three individuals suggested have been reviewed by Mr. Hardt, Region 1 Engineer; Mr. Jenkins, Materials Engineer; and Dr. Meredith.

Generally we had proposed for Mr. Tator to review and report on the adequacy of our paint specifications, on data relative to the effect of the Portland environment on the inorganic zinc primer and on the probability that faulty application, rather than the environment, was the primary cause of the failure of the inorganic zinc primer. We would also anticipate requesting Mr. Tator to investigate and report on the vinyl paint bubbling problem.

Arrangements have been made for Mr. Tator to come to Portland next week. He will arrive the evening of ~~October~~ Nov. 5 and be here the sixth and a portion of the seventh. The purpose of his visit is for us to affirm his apparent qualifications. We will present the problems to him and determine whether or not he is willing to assist us with them. We will also ascertain the approximate fee for the assignment.

Dr. Robert Meredith worked last summer for Mr. Jenkins in our Materials Lab on an unrelated problem. At off moments he devoted some time to studying the probable effect of the Portland environment on inorganic zinc primer. We believe it would be advantageous to update our testing of panels and probably conduct additional tests subjecting test panels to various solutions duplicating the environmental problems.

In the event of litigation, which is probable, a non-Highway employee expert on corosion, would probably be more persuasive to a court or jury. Dr. Meredith seems well-qualified to do the testing work in cooperation with Mr. Jenkins. A copy of Dr. Meredith's qualification is attached. His fee for consulting work is $200 per day or $25 per hour. We have utilized some of his time to discuss the possible testing and to assist us in evaluating the merits of Mr. Tator and the other experts considered.

Federal participation in securing the two outside consultants and other related costs in preparation of the State's case in this pending litigation is requested.

Very truly yours,

A. E. Johnson
Deputy State Highway Engineer

Enclosures
WJH:dh

cc L. Hampton
E. L. Hardt
J. Jenkins
W. J. Hart

F. B. Klaboe
E. S. Hunter
R. L. Schroeder
W. S. Coulter

LEE JOHNSON
ATTORNEY GENERAL

JAMES W. DURHAM
DEPUTY ATTORNEY GENERAL

DEPARTMENT OF JUSTICE
GENERAL COUNSEL DIVISION
103 STATE OFFICE BUILDING
SALEM, OREGON 97310
TELEPHONE: (503) 378-4620

October 30, 1974

Mr. A. E. Johnson
Deputy Highway Engineer
Highway Building
Salem, OR 97310

Re: Drake-Willamette vs. State
Anderson-Hanna vs. State
L-7122 and L-7121
Fremont Bridge

Dear Mr. Johnson

As you know the contractors for the east and west approaches to the Fremont Bridge have filed actions seeking approximately $2,290,00 and $1,295,00 respectively. The early proceedings will involve the finalizing of the pleadings, the examination of records and the taking of depositions. It is also necessary to start outlining and preparing the presentation of our cases. John Leahy, Chief Trial Counsel, and I will be handling them.

It will be necessary to obtain the services of added independent experts to advise us on the facts and to testify in the probable litigation to come. Mr. Leahy and I have tentatively selected two such experts, Mr. Kenneth Tator and Robert Meredith.

Mr. Tator is an experienced consulting engineer. I forward herewith a copy of his qualifications. His name with two others was furnished by the National Zinc Institute. We reviewed the qualifications of the three by obtaining some of their respective work and discussing the same with Ed Hardt, John Jenkins and Professor Meredith. We also briefly discussed the experts with you.

Generally we visualize a review and a report on the adequacy of our paint specifications, our data relative to the effect of the Portland environment on the inorganic zinc primer and the

Cy John Jenkins
Ed Hardt
11-1-74

NOTED
A. E. JOHNSON

probabilities that faulty application rather than the environment was the primary cause of the paint failures. We also envision an investigation and report of the "vinyl paint bubbling problem".

Mr. Leahy and I arranged for Mr. Tator to come to Portland next week. He will arrive the evening of the 5th and be here the 6th and a portion of the 7th of November. He also has an assignment in Phoenix, Arizona which will save some of his transportation costs. The purpose of his visit is for us to affirm his apparant qualification and the favorable impression that he made by telephone. We will present the problems to him and determine whether or not he is willing to assist us with them. We will also obtain the approximate fee involved for the assignment.

Dr. Robert Meredith last summer worked on a unrelated problem for John Jenkins in our lab. At off moments he devoted some time to studying the probable effect of the Portland environment on inorganic zinc primer. In discussions with Mr. Hardt, you and others we decided it would be to our advantage to update our testing of panels and probably conduct additional tests subjecting test panels to various solutions duplicating the environmental problems.

In the event of litigation, which is probable, a non-highway employee expert on corrosion would probably be more persuasive to a court or jury. Dr. Meredith seems well-qualified to do the testing with the cooperation of Mr. Jenkins. I enclose a copy of his qualifications. His fee for consulting work is $200 per day or $25 per hour. Mr. Leahy and I had heretofore utilized some of his time to discuss the possible tests and to assist us in evaluating the merits of Mr. Tator and the other possible experts.

I would appreciate your informing the appropriate Federal Highway Administration personnel of our intent to utilize these experts. Please also have your staff do the necessary processing to obtain federal participation in this phase of our trial preparation.

Sincerely

Les Hampton

Leslie B. Hampton
Assistant Chief Trial Counsel

lj
Enclosures
cc: Mr. Ed Hardt
Mr. John Jenkins

KENNETH TATOR ASSOCIATES
2020 MONTOUR ST. • CORAOPOLIS, PA. 15108 • (412) 262-2663

PROTECTIVE COATINGS (PAINT) CONSULTANTS: Testing • Instruments • Inspection • Corrosion Engineering

KENNETH B. TATOR

Kenneth B. Tator is the owner of KENNETH TATOR ASSOCIATES, a consultant engineering firm specializing in industrial protective coatings. The Company's services include premature paint failure analysis and corrective recommendations; laboratory and field paint testing; specification writing and review; on-the-job coating application inspection, and the sale of a complete line of coating inspection instrumentation.

EDUCATION

Columbia University -- Graduate School of Business
Master of Business Administration

Lafayette College --
Bachelor of Science in Chemical Engineering

ASSOCIATION MEMBERSHIPS

American National Standards Institute
National Association of Corrosion Engineers
American Society of Testing Materials
Society for Paint Technology
Utilities Nuclear Coating Work Committee
Steel Structures Painting Council

EXPERT TECHNICAL WITNESS

Tator has presented expert witness testimony on coating failures in the following states: Pennsylvania, Ohio, South Carolina, Florida, Delaware, Rhode Island, and West Virginia.

Tator has been selected to write two important chapters; "Surface Preparation of Metal Surfaces", and "Zinc Rich Coatings"; in the upcoming McGraw-Hill Paint Specification Handbook.

PUBLICATIONS

"Coating Inspection Instruments"; PLANT ENGINEERING, September 19 and October 3, 1974.

"Coating Developments, Problems, Trends in the Chemical Industry"; MATERIALS PERFORMANCE, September 1974.

"Use Good Sense With Paint Specs"; CANADIAN CHEMICAL PROCESSING, March 1974.

"Engineers Guide to Protective Coatings"; CHEMICAL ENGINEERING Deskbook Issue, December 4, 1972.

"Engineered Painting Pays Off"; CHEMICAL ENGINEERING, December 27, 1971.

"Industrial Maintenance Painting--Proper Planning and Careful Selection of Alternatives Can Save Money"; AMERICAN SOCIETY OF MECHANICAL ENGINEERS, October 1971.

"Industrial Painting--Doing It Properly Can Save Money"; CANADIAN CHEMICAL PROCESSING, March 1971.

"On-The-Job Coating Inspection Helps Insure Quality Application"; MATERIALS PROTECTION AND PERFORMANCE, Vol. 10, No. 2, February 1971.

"Protective Coatings"; CHEMICAL ENGINEERING Deskbook Issue, October 12, 1970.

"Industrial Paint Testing"; NEW YORK CORROSION COURSE, October 1969.

"A Consultant Looks at Zinc Rich Paints"; ZINC INSTITUTE, INCORPORATED, November 1969.

"Corrosion Resistant Zinc Paints"; ZINC INSTITUTE, INCORPORATED, May 1969.

SEMINARS

Tator has presented technical papers or educational lectures at various meetings including: National Association of Corrosion Engineers; Liberty Bell Corrosion Course; New York Corrosion Course; American Zinc Institute; Canadian Zinc Institute; American Society of Mechanical Engineers; National Plant Engineering and Maintenance Conference; Kanawha Valley Coatings Society; University of Missouri-Rolla; University of Wisconsin-Madison; Center for Professional Advancement; Engineering Foundation Conference; Paint Research Institute of the Federation of Societies of Paint; and various corporate seminars.

KENNETH TATOR ASSOCIATES
2020 MONTOUR ST. • CORAOPOLIS, PA. 15108 • (412) 262-2663

PROTECTIVE COATINGS (PAINT) CONSULTANTS: Testing • Instruments • Inspection • Corrosion Engineering

STANDARD FEE STRUCTURE: KENNETH B. TATOR

CONSULTATION CHARGES:

First Day: $350.00, each successive day $250.00

Minimum Consultation Charge (part of a day): $100.00

Technical Report: $40.00/hour with a two hour minimum.
(The average technical report is four pages in length and requires two hours preparation time.)

LITIGATION:

Expert Witness Testimony: (courtroom or deposition)	$350.00 per day
Courtroom Availability: (no testimony presented)	$275.00 per day

Retainer Fee: As pending litigation may restrict our availability for other consulting jobs, we charge a retainer of $100.00/month or any part of a month we are involved in litigation proceedings. This fee includes provisions for telephone conferences, etc.

All charges are plus expenses.

RECEIVED
OCT 20 1974
ATTORNEY GENERAL
SALEM, OREGON

OREGON STATE UNIVERSITY

School of Engineering

MEREDITH, Robert Eugene
Associate Professor

BIRTH DATE
February 25, 1928

DEGREES

B.S., Chemistry, University of Calif. at Berkeley, 1956
Ph.D., Chemical Engineering, University of Calif. at Berkeley, 1959

ACADEMIC POSITIONS

Research Associate, University of California, 1956-57
Assistant Professor, Oregon State University, 1959-63
Associate Professor, Oregon State University, 1963-

NON-ACADEMIC POSITIONS

Union Oil Co., Rodeo, Calif., Summer 1956
California Research Corp., Richmond, Calif., Summer 1957
Consultant, U.S. Bureau of Mines, 1959-66
Consultant, Pacific Power and Light Co., 1962
Consultant, U.S. Naval Ordnance Lab., Corona, Calif., 1963
Consultant, NASA, Jet Propulsion Lab., 1963, 1970-71, 1973
Consultant, Wah Chang Corp., 1964
Consultant, Flomatcher Corp., 1965-67
Consultant, Foote Mineral Co., 1967-70
Consultant, Cornell, Howell, Hayes & Merryfield, 1968
Consultant, Evans Products Co., 1966, 1968-69, 1974
Consultant, Memorex Corp., 1971
Consultant, Weyerhaeuser Co., 1971
Consultant, Dow Chemical Co., 1973

FIELDS OF SPECIALIZATION

Electrochemistry and Electrochemical Engineering including the fields of energy conversion, corrosion, electrical conductivities, current distribution and gravitational effects on electrochemical processes. Properties and physics of porous and dispersed phases. Chemical Engineering Plant Design.

PROFESSIONAL ACTIVITIES

Registration

State of Oregon, No. 4858

Professional Societies

Electrochemical Society
American Institute of Chemical Engineers

MEREDITH, Robert Eugene

Professional Recognition

Past President, Sigma Xi, OSU Chapter, 1966-67
Member, Board of Theoretical Division, Electrochemical Soc., 1959-74
Member, Honors and Awards Subcommittee, Electrochemical Soc., 1959-60
Chairman, Pac. Northwest Section, Electrochemical Soc., 1966
Chairman, Pysical Electrochemistry Division, Electrochemical Soc., 1970-72
Member, Board of Directors, Electrochemical Soc., 1970-72
Chairman, Chemical Engineers of Oregon, 1968-69
Member, Undergraduate Curriculum Committee, A.I.Ch.E., 1959
Senior Post-Doctoral Resident Research Associate, National Academy of Sciences, 1966-67
Sigma Xi
Tau Beta Pi

PUBLICATIONS

Books

"Conduction in Heterogeneous Systems," Vol. II, Advances in Electrochemical Engineering, Edited by P. Delahay and C. W. Tobias, Interscience, New York, 1962
Contributor to: "Encyclopedia of Electrochemistry," edited by Clifford Hampel, Reinhold, New York, 1964.

Technical Journals

"Resistance to Potential Flow Through a Cubical Array of Spheres," J. of Applied Physics 31, 1270, (1960) and 32, 132, (1961).
"Conductivities in Emulsions," J. of the electrochemical Soc. 108, 286-290, 1961.
"The Role of Current Distribution in Cathodic Protection," Materials Protection, 2, nr. 2, pp. 39-42, 1963.
"A High-Temperature Solid-State Battery," Electrochemical Technology 5, 32-34, 1967.

Conference Proceedings

"The Oxygen Electrode in Molten Carbonates," Proceedings of the Interagency Advanced Power Group, October 1961.
"Theoretical Evaluation of Hot Spot Temperature of Silver-Zinc Batteries," Proceedings of the Intersociety Energy Conversion Engineering Conference, 1968 Record, pp. 32-37.

Reports & Others

"Studies on the Conductivities of Dispersions, "Univ. of Calif. Radiation Lab. Report (UCRL 8667), 1959.
"Electrowinning Copper and Zinc from Oregon Mines," Oregon Dept. of Planning and Development No. 46, 1962.
"Electrodeposition Studies of Molybdenum, Tungsten, and Vanadium in Organic Solvents," U.S. Bureau of Mines Report of Investigations, R.I. 6303, 1963.

Reports & Others (cont)

"Gravitational Effects on Electrochemical Batteries," NASA Technical Report 32-1570 67 pages, 1972

CONSULTING AND EMPLOYMENT EXPLANATION

Union Oil Co.

Solved some asphalt and lube oil production problems.

California Research Corp.

Performed capacity studies on the limiting factors in a crude oil distillation column.

U.S. Bureau of Mines

Devised techniques for electro-plating some uncommon metals from organic solvents.

Pacific Power & Light Co.

Performed feasibility studies on the use of battery powered cars and advised the Research Director with regard to industrial support on the project.

U.S. Naval Ordnance Lab.

Developed a battery for use in high temperature applications.

NASA, Jet Propulsion Lab.

Advised on the expected behavior of battery performance in low gravitational fields.

Wah Chang Corp.

Aided in corrosion studies.

Flomatcher Corp.

Studied electrolytes for high current density a.c. use.

Foote Mineral Co.

Helped evaluate diaphragm performance in manganese cells.

Cornell, Howell, Hayes and Merryfield

Aided in design of a chemical recovery system to stop water pollution for a client. Studied properties of sodium thiocyanate.

Evans Products Co.

Evaluated battery separators. Help develop a new plastic separator.

Memorex Corp.

Conducted an investigation, as an impartial party with attorneys, on the misuse of company secrets by former employees of the company.

Weyerhacuser Co.

Devised a calibration technique so that reduced sulfur compounds could be monitored in stack gases with conventional methods.

Dow Chemical Co.

Conducted a "state of the art" investigation on the current status of fuel cells. Studied hydrogen usage in energy conservation.

7214

LEE JOHNSON
ATTORNEY GENERAL

STATE OF OREGON
DEPARTMENT OF JUSTICE
SALEM, OREGON 97310

7214
1312

October 29, 197~~5~~4

A. E. JO

Mr. Kenneth Tater
Attorney at Law
2020 Montour Street
Coraopolis, Pa. 15108

Re: Freemont Bridge

Dear Mr. Tater

This will confirm previous telephone conversations with your office.

We expect you to arrive at Portland International Airport in the evening of November 5, 1974. You have a reservation at the Cosmopolitan Airtel at 6221 N.E. 82nd in Portland (telephone: 255-6511). The hotel is right near the airport, they have a shuttle service from the hotel to the airport. It will be necessary for you to call the Airtel when you arrive at the airport and it will take them about 10 minutes to send a car to pick you up.

The following morning Mr. Charles Lobough an assistant engineer with the Oregon State Highway Division will pick you up at your hotel at approximately 8:45 if that is convenient for you and drive you to Mr. Ed Hardt's office where Mr. Hampton and I will will meet with you.

Mr. Hampton and I are looking forward to meeting you and hope you have a pleasant trip to Oregon.

Sincerely

John Leahy
Chief Trial Counsel

mlm

cc: Ed Hardt
Al Johnson
Chuck Lobough

RECEIVED
STATE HWY ENGR
OCT 31 '74
REFER TO
FOR

7214

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION
INTER-OFFICE CORRESPONDENCE
October 1, 1974
Salem, Oregon

FILE: Contracts 7310
7214, 7276

ORIGINAL SIGNED
R.W. ELLISON

FROM: R. W. Ellison
Bridge Administration Engineer

TO: Mr. Leslie Hampton
Assistant Chief Trial Counsel

SUBJECT:

Fremont Bridge and Interchanges
Paint Litigation

The following prefixes are to be used when making charges in connection with litigation involving painting of the Fremont Bridge and Fremont Interchanges.

	Contract No.	Prefix
E. Fremont Interchange	7310	626-1017-286
W. Fremont Interchange	7214	626-1011-286
Fremont Superstructure	7276	626-1013-286

RWE/ag

cc A. E. Johnson
W. Barrie
E. Hardt
W. Hart
R. Shotwell
J. Jenkins
R. Bothman
C. Lobaugh
V. Skoog
L. Miller

FOR
A. E. J.

RECEIVED
STATE HWY ENGR
OCT 2 '74
REFER TO
FOR
Info

Ellison will send copies to
Hunila, Carlton & John Howard.
aeg

A #7214 9-4-74

32723

In the circuit Court of the State of Oregon

for the County of Marion

H. A. ANDERSEN CO., an Oregon corporation, and
HANNAN BROS. CONSTRUCTION, INC., an Oregon corporation,
constituting a Joint Venture,
Plaintiffs,

vs.

STATE OF OREGON, acting through its Transportation
Commission, Department of Transportation, Highway
Division (Formerly Oregon State Highway Commission),
Defendant.

No. 86553

SUMMONS

To Above-named Defendant.
Defendant

IN THE NAME OF THE STATE OF OREGON: You are hereby required to appear and answer the complaint filed against you in the above entitled cause within ten days from the date of service of this summons upon you, if served within this county; or if served within any other county of this state, then within twenty days from the date of the service of this summons upon you; and if you fail so to answer, for want thereof, the plaintiffs will apply to the court for the relief demanded therein.

NOTICE TO DEFENDANT: READ THESE PAPERS CAREFULLY!

You must "appear" in this case or the other side will win automatically. To "appear" you must file with the court a legal paper called a "motion," "demurrer" or "answer." This paper must be given to the court within *10 days along with the required filing fee. It must be in proper form and have proof of service on the plaintiff or his attorney to show that the other side has been given a copy of it.

If you have questions, you should see an attorney immediately.

* If summons is served within the above named county, insert "10" days; if served within any other county of the state, insert "20" days.

KOBIN & MEYER

By /s/ Norman B. Kobin
Of Attorneys for Plaintiffs

STATE OF OREGON, County of Multnomah *)ss.*

I, NORMAN B. KOBIN, *one of plaintiff's attorneys, do hereby certify that I prepared the foregoing copy of summons and have carefully compared the same with the original thereof; and that it is a true and correct copy of said original.*

Portland, *Oregon,*
dated the 4th *day of* September, *19*74

Norman B. Kobin
of Attorneys for Plaintiff

TO THE SHERIFF, OFFICER OR OTHER PERSON SERVING THIS SUMMONS:

You are hereby directed to serve a copy of the within summons, together with a copy of the complaint, upon the defendant, STATE OF OREGON, by serving Cecil Head, Secretary,
State ~~Office~~ Highway Building, Salem, Oregon.
~~xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx~~

/s/ Norman B. Kobin
of Attorneys for Plaintiff

Norman B. Kobin
Kobin & Meyer
610 S. W. Alder - Suite 800
POrtland, Oregon 97205
Telephone: 223-1107

ATTORNEY'S NAME, ADDRESS AND TELEPHONE NUMBER

FORM No. 190—CIRCUIT OR DISTRICT COURT SUMMONS.
TK STEVENS-NESS LAW PUB. CO., PORTLAND, ORE.

IN THE CIRCUIT COURT OF THE STATE OF OREGON

FOR THE COUNTY OF MARION

H. A. ANDERSEN CO.,
an Oregon corporation, and
HANNAN BROS. CONSTRUCTION, INC.,
an Oregon corporation,
constituting a Joint Venture,

Plaintiffs,

vs.

STATE OF OREGON, acting through
its Transportation Commission,
Department of Transportation,
Highway Division (formerly Oregon
State Highway Commission),

Defendant.

No. ________________

COMPLAINT
(In Law)
(Breach of Contract)

Plaintiffs, for cause of action against defendant, allege:

I

During all times mentioned, H. A. Andersen Co. was and is an Oregon corporation, and Hannan Bros. Construction, Inc. was and is an Oregon corporation, and, so far as here relevant, constituted a joint venture.

II

Oregon Transportation Commission is an agency of the State of Oregon, and action against this agency is authorized under ORS 30.320. At the time of the execution of the contract alleged, the contracting agency was the State Department of Highways, acting through its State Highway Commission. Thereafter, said agency was incorporated into and made a division of the Transportation Commission, Department of Transportation.

III

On or about March 1, 1969, and by revisions dated March 7, March 18, and April 4, 1969, defendant invited sealed bids from bidders for the construction of an improvement referred to as "West Fremont Interchange Section Stadium Freeway" pursuant to the public Competitive Bidding Statutes of the State of Oregon. The proposal documents furnished by defendant to bidders, including plaintiffs, consisted, amongst other things, of the notice inviting bids, the bid proposal form, detailed specifications relating to the work performed and materials required, detailed plans and drawings, and the form of contract to be executed by the bidder if awarded the contract.

IV

Plaintiffs timely submitted their proposal, duly responsive to all the terms and requirements of the invitation and all related documents furnished by defendant. On or about the _______ day of ______________, 1969, plaintiffs were awarded the contract based upon their proposal, and the parties executed the contract in writing on the _______ day of ______________, 1969. The contract consisted of the many items included in the invitation as listed in Paragraph III, above, together with various technical details referred to and incorporated therein.

V

Defendant, prior to bid invitation, elected to design all phases of the work to be performed and the materials that would be required in its performance, and, in addition to its own staff engineers, elected to engage independent engineers and consultants as their agents to prepare adequate, detailed and workable plans, drawings and specifications. Under the terms of the contract entered into between plaintiffs and defendant, all responsibility for completeness, correctness, reasonableness, workability and adequacy of the design, engineering, administration and supervision was assumed by defendant in its capacity as owner, designer, architect and engineer, and plaintiffs, by the terms of the contract, could rely upon the aforesaid agreement and warranty of the defendant, and did so rely.

VI

In bidding and in entering into the contract with defendant, plaintiffs were induced to and did rely on the plans and specifications furnished and on the expressed and implied warranties and agreements of defendant with respect thereto. Defendant thus warranted and agreed that:

(a) Its designers and engineers were professionally competent;

(b) The work could be completed within the sequence and time allotted by the contract;

(c) The plans and specifications, if followed, were workable, adequate, comprehensive, reasonable and sufficiently descriptive and would produce the results which defendant bargained for, and if such results could not be accomplished by so doing, the unanticipated additional expense in accomplishing such results would be for the account of defendant.

(d) The contract further provided that in the event any changes in the work were required, or in the details of the construction thereof, that all such changes should be at the expense of defendant.

VII

So far as here relevant and pertinent, the contract required the furnishing, fabrication and erection of approximately 15,390,000 pounds of structural steel (Bid Item 65) in the construction of the bridge. The specifications required that the structural steel be painted at the fabrication shop with one coat of a precisely specified, previously approved, inorganic zinc silicate coating mixture to a specified thickness after specified cleaning or preparation procedures. After erection, the specifications required detailed cleaning or washing procedures of the structural steel and the application of one coat of a previously approved vinyl paint to a specified thickness, and which paint was to be compatible with the prime coat.

VIII

Consistent with trade practice, custom and usage, plaintiffs subcontracted the furnishing, fabrication and shop coating of the structural steel and the field painting of the structural steel to separate subcontractors, all with the written consent and approval of defendant.

IX

So far as here relevant and pertinent, the specifications and Special Provisions of the Contract for the preparation and coating or painting of the surfaces of the structural steel, both at the shop and in the field, were in minute detail, both as to the source and composition of the materials to be used and the equipment and methods to be used in their application, leaving little to plaintiffs' discretion. (Section 414 of the Special Provisions and the various specifications of other agencies referred to therein). Amongst other things, the specifications and Special Provisions of the Contract required:

(a) Shop or Prime Coat. The structural steel was to be painted and primed at the fabrication shop with one coat of a specified two component, self curing, inorganic zinc silicate mixture to a dry film thickness of 3 mils. The supplier of such paint was subject to approval of defendant, and the paint was subject to approval and acceptance after testing and delivery to assure that it met the detailed specifications. The manner of storing, labeling of containers, mixing and thinning of paint, application by spray generally, the temperature, moisture and humidity conditions at time of application were all specifically detailed. Preparation or cleaning of the surfaces, together with the method of accomplishing same prior to the application of the primer, were detailed.

(b) Vinyl Field Coat. After erection of the structural steel, a single "finish coat" of a specified vinyl paint made by the same manufacturer as was approved for furnishing the prime coat was to be applied to a dry mil thickness of 5 mils. Gloss and color was to be Oregon State Highway Department Green. The specifications for prior approval, storage, mixing and application of the paint were the same as for the prime coat. The method of application, brush or air spray, was specified. A detailed cleaning or washing procedure was also specified to be performed prior to the painting.

(c) Upper Flange Surfaces. The specifications provided that the upper flange surfaces to be imbedded in concrete were not to be coated.

X

Defendant breached its contractual undertakings, in that:

(a) The design, plans and specifications for the prime coat system were not workable, adequate or correct, but rather, were defective. Plaintiffs were advised and therefore allege that their subcontractor applied the designated and approved inorganic zinc silicate in accordance with the specifications and requirements of the contract, as modified by defendant, after cleaning and preparing the surfaces in accordance with the contract. Despite the foregoing, the defendant refused to accept the finished product without substantial repairs required in the field after erection.

(b) The design, plans and specifications for the vinyl coat were not workable, adequate or correct, but rather, were deficient. Plaintiffs' approved subcontractor attempted to apply the previously approved and specified vinyl paint in accordance with the specifications and requirements of the contract after cleaning and preparing the surfaces in accordance with the contract. Despite the foregoing, the paint bubbled and exhibited other aesthetic characteristics which were objectionable to defendant without substantial changes in the work and substantial repairs directed by defendant.

(c) The design, plans and specifications which prevented the application of a shop coat to the upper flange surfaces of structural steel to be imbedded in concrete were not workable, adequate or correct, but rather, were defective. The failure to so do resulted in substantial rusting of the upper flanges, and upon being exposed to the job site environment, the rust was caused to pass down onto and contaminate the prime and field coatings. Defendant recognized the inadequacy of the specifications and directed plaintiffs to repair the contamination so caused, but made no payment to plaintiffs for the substantial additional costs for the disruption of other work necessarily flowing from such design inadequacy.

(d) By reason of the foregoing inadequacies and deficiencies in the plans and specifications, acting individually and in concert, plaintiffs were hindered and delayed in the performance of its contract. Total work disruption and work sequence was substantially altered and, in many instances, came to a halt for periods of time. Defendant on several occasions directed that the painting work be suspended for substantial periods of time while defendant considered alternate products to use and methods of application to be employed. As a result of such hindrance, delay and work disruption on other portions of the contract, as well as the painting, plaintiffs' overall work was made more costly by the actions and inactions of defendant.

XI

As a direct result of the foregoing breaches on the part of defendant, and the changes and alterations in details of construction as directed by defendant, plaintiffs were required to expend substantial sums of money in order to obtain defendant's acceptance of the work. Additionally, plaintiffs were required to change its sequence of operations and details of construction, and were hindered and delayed in the performance of their work by reason of the foregoing and the substantial periods of time which it took defendant to determine corrective procedures and make changes in the materials previously specified. Plaintiffs sustained additional damages by reason of the disruption in its total work efforts in construction of the bridge and the substantial increase in time to complete its entire contract and obtain defendant's approval. All to plaintiffs' damage in the reasonable sum of $1,295,071.15, together with interest thereon at the legal rate, as follows:

(a)	Additional On Site Overhead...........	$ 399,495.30
(b)	Alteration in Details of Construction.	25,556.09
(c)	Alteration in details of forming, additional forming required, and added costs involved in the forming operations.....................	290,054.36

(d)	Delay in steel erection...............	$ 6,000.00
(e)	Repairs to prime coat.................	165,591.80
(f)	Substitution of specified Vinyl Coat and added costs in application........	17,031.85
(g)	Increase in wage rates after June 1, 1971 when work should have been completed but for defendant's breach	59,381.64
(h)	Overtime premium costs to minimize effect of delays caused by defendant's breach..............................	19,945.68
(i)	Claim of structural steel fabricator for added costs, etc..................	143,092.11
(j)	Plaintiffs' administrative markup on foregoing............................	168,992.32
	TOTAL:	$1,295,071.15

XII

Although demand has been made timely by plaintiffs, defendant has failed and refused to pay said sum or any other sum, and plaintiffs are entitled to recover the sum of $1,295,071.15, plus interest at 6% per annum from job completion, for failure to make payment to plaintiffs within a reasonable period of time.

XIII

Plaintiffs have performed all the terms and conditions of its contract to be performed, and defendant has approved plaintiffs' work performance and accepted the contract as having been completed.

WHEREFORE, plaintiffs demand judgment against defendant for the sum of $1,295,071.15, together with interest at 6% per annum from the date of after completion and acceptance of the contract, and for costs and disbursements incurred.

KOBIN & MEYER

By /s/ Norman B. Kobin
Norman B. Kobin
Attorneys for Plaintiffs
610 S. W. Alder - Suite 800
Portland, Oregon 97205
Telephone: 223-1107

d of the

rman B. Kobin
Kobin
r Plaintiffs
der - Suite 800
regon 97205
e 223-1107

STATE OF OREGON, County of Multnomah ss. **VERIFICATION**

I, ROBERT S. EVERETT,
Vice President of Plaintiff H. A. Andersen Co. being first duly sworn, sa
Complaint
and tha
is true as I

/s/ Robert S. Everett

Subscribed and sworn to before me this 4th day of September

/s/ Norman B. Kobin
Notary Public for Oregon.
My Commission expires August 25, 197

CERTIFICATE — TRUE COPY — WELL FOUNDED IN LAW

ng copy of COMPLAINT
is a corr
COMPLAINT
, 19 74
in my opinion is well found

Norman B. Kobin
Of Attorneys for Plaintiffs

ACCEPTANCE OF SERVICE

, 19........ is hereby accepted in
, by receiving a duly certified copy thereof.

Of Attorneys for

CERTIFICATES OF SERVICE

, 19 , I served the within
on
by personally delivering to him a correct copy thereof.

Of Attorneys for

9........, I served the within
on
, during his absence from his office by leaving a correct copy thereof wi
, at
, Oregon.

Of Attorneys for

on
n a sealed envelope, with postage paid, addressed to said attorney(s) at his or their
, 19 , by mailing to said attorney(s)
and deposited in the post office at
, Oregon,
to which said copy was mailed, there is a regular communication by U. S. Mail.

Of Attorneys for

NOTE: See ORS 16.790(2). If the copy of the document named in the above certificate of mailing was mailed to an address other than the attorney's "regular office address," delete, by lining out, "regular office address, to-wit:", and state the document was mailed and the

#7214

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

FILE:

INTER-OFFICE CORRESPONDENCE
Region 1 - Milwaukie
August 20, 1974

Edward L. Hardt

FROM: EDWARD L. HARDT
Regional Engineer

SUBJECT: FREMONT BRIDGE IMPACT CLAIMS

TO:
A. E. JOHNSON
JOHN LEAHY
JOHN JENKINS
JOHN HOWARD
ROBERT SHOTWELL
ROBERT CUNNINGHAM
CHARLES LOBAUGH
JACK DAVIS

Countermanding all previous letters and phone calls on the subject, the meeting to discuss the current status of the contractor's impact claims on the East and West Fremont Interchange projects has now been scheduled for August 28 at 2 PM in the small conference room in the Salem Highway Building. All addressees are still requested to attend.

ELH/cr
cc H. S. Coulter
R. N. Bothman
A. C. Harwood
W. J. Hart
H. A. Schell, FHWA

NOTED
A. E. JOHNSON

NOTED
F. B. KLABOE

RECEIVED
STATE HWY ENGR
AUG 21 '74
REFER TO
Klaboe
FOR

Info	Ans	RD	CR	Sign	Act	File
X						

7214

8

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon 97310

DATE July ~~26~~ 31, 1974

TO H. S. Coulter
Asst. State Highway Engineer

FROM John C. Jenkins
Engineer of Materials

SUBJECT Fremont Bridge Paint Problem

The last couple of weeks before Dean Mandrell's employment with the State terminated on May 31, 1974, were spent reviewing some data supplied by Canron's attorney. Dean had not finished at the time his employment ended so he put in some additional time to complete his report:

June 1	-	6 hours
June 2	-	4 "
June 3	-	2 "
June 8	-	3 "
Total		15 hours

How may we compensate him for this time?

JCJ:gs

7-31-74

RECEIVED
JUL 29 1974
Office of
Assistant State Highway Engineer

Jenkins—
Have Mandrell submit an invoice
for services rendered (with description
of work done-dates-hours, etc.) at appropriate
hourly rate and write an F.P.O. to
cover. Dick Hacek in Finance says they
will pay on that.

7214

496-5

July 3, 1974

Mr. Paul L. Heineman
Howard, Needles, Tammen & Bergendoff
1805 Grand Avenue
Kansas City, MO 64108

Dear Mr. Heineman:

Fremont Bridge Approaches
Contracts 7214 and 7310
Structural Steel Shop Drawings on Loan
to U.S. Customs

The drawings referred to in your letter of June 17 were picked up at this office by Mr. James C. McCarthy of the Bureau of Customs for the purpose of determining their value and will be returned in about one month.

Enclosed is a copy of the letter of transmittal and an itemization of the materials received by Mr. McCarthy.

Very truly yours,

F. B. Klaboe
Administrator and
State Highway Engineer

Enclosures

bc: A. E. Johnson
E. S. Hunter
Jack Sollis
W. J. Hart

JHA:dh cm

13.

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

TOM McCALL
GOVERNOR

F. B. KLABOE
Administrator of Highways

June 25, 1974

Mr. James C. McCarthy, Special Agent
U. S. Treasury Department
Bureau of Customs
511 N. W. Broadway
Portland, OR 97209

Dear Mr. McCarthy:

Fremont Bridge, East and West Approaches
Contracts 7214 and 7310, Loan of Shop Drawings

In accord with yesterday's discussion between you and Mr. Jack Sollis, our legal counsel, we are sending you, with this letter, six boxes of reduced structural steel shop drawings for the subject structures. These drawings are in six of our standard file boxes labeled "A" through "F". These boxes are further referenced to the boxes in our file which contain the original drawings (copies) and allows identification of box content.

It is understood you will require use of these drawings for approximately one month and that the Bureau of Customs will reimburse the State at the rate of 25 cents per sheet for all sheets not returned.

Please indicate below your receipt of boxes "A" through "F" and your liability for lost sheets.

Very truly yours,

Walter J. Hart
Bridge Engineer

R.W. Ellison
R. W. Ellison
Bridge Administration Engineer

RWE:dh
Attachments
cc Jack Sollis, E. S. Hunter

I received the above described boxes "A" through "F" from the Oregon State Highway Division on June 25, 1974. The above indicated rate for reimbursement to the State for any copies lost while in my custody is acceptable.

James C McCarthy
James C. McCarthy, Special Agent

A DIVISION OF THE DEPARTMENT OF TRANSPORTATION

E. Fremont Intake
Structural Steel Shop Drawings

Old Box #

ox "A"	1	"WS" Line	
	2	"WN" Line	
	3	Steel-Steel Link Details	
	4	"NW" Line	
	5	"SW" Line	
	6	"EW" Line	Units 1-2
ox "B"	7	"EW" Line	Unit 3
	8	"EW" Line	Unit 4
	9	"WE" Line	Unit 1
	10	"WE" Line	Unit 4
ox "C"	11	"WE" Line	Unit 5
	12	Misc. Dwgs.	(Box 1)
	13	Misc. Dwgs	(Box 2)
	14	"WE" Line	Units 2-3
		Also Erection Dwgs.	

W. Fremont Intchg Structural Steel

Girder Numbering System Index

Old File Box	Girder #	Bridge Unit
ox "D"		
1	201-214	1 WE
	215-234	1 SE
1A	235-248	1 EW
2	249-268	1 ES
	269-286	2 SE
2A	287-304	2 ES
ox "E"		
3	305-314	1 SW
	315-324	2 SW
	325-339	3 ES
3A	340-354	3 SE
4	355-362	1 WS
	363-370	2 WS
	371-380	3 WS
	381-390	3 SW
5	Misc Steel Shop Dwgs.	
Box "F"		
6	Misc Steel Shop Dwgs. cont.	
7	Steel Shop Dwgs. Steel-Steel Link Details	
8	Ring Piers	

HOWARD NEEDLES TAMMEN & BERGENDOFF

RECEIVED
STATE HWY ENGR
JUN 19 '74
REFER TO
FOR
Info Saves D/D D/R Sign Act File

NOTED
A. E. JOHNSON

June 17, 1974

Mr. F. B. Klaboe
Administrator and State Highway Engineer
Oregon Department of Transportation
State Highway Building
Salem, Oregon 97310

Re: Fremont Bridge Approaches

Dear Mr. Klaboe:

In the past two years we have been asked by the U. S. Customs Bureau for information regarding the work done by CANRON on the subject project. This information was supplied with the authorization of the OSHC. Apparently this was in connection with some additional duty claimed by U. S. Customs for the structural steel shipped into the U. S. by CANRON for the project.

In the past week it has become apparent that U. S. Customs is now planning to assess duty on the shop drawings and are contending the value of the drawings to be the cost of making the original drawings contrasted to the nominal value of the prints.

They are pursuing this approach even though we have taken the position that:

1. The shop drawings were never assigned to or owned by HNTB.
2. The shop drawings were never used in the United States for fabrication, assembly or erection of any portion of the bridge (erection drawings were prepared in the United States.)
3. If the drawings were subject to duty, that duty was not assignable to us because we had neither ordered the drawings nor did we have any form of title to them at any time when they were in our possession.
4. The drawings could be used only by the fabricator who had originally prepared the drawings in his own shop for the single contract of the Fremont Bridge approaches, and lastly,
5. The cost of producing the shop drawings was a part of CANRON's cost reflected in the value of the steel as shipped, on which duty has already been paid.

6-20

RECEIVED
JUN 19 1974
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

Planning Engineering Architectural Services

1805 Grand Avenue, Kansas City, Missouri 64106, 816 474-4900

Partners H.C. Lamberton, Jr., James F. Finn, Paul L. Heineman, Joseph H. Looper, Robert O. Drange, Bernard H. Rottinghaus, Gerard F. Fox, William M. Wachter, George K. Erganian, Browning Crow, Charles T. Hennigan, Edgar B. Johnson, Daniel J. Watkins, Daniel J. Spigai
Associates Rex M. Whitton, Daniel J. Appel, William C. Meredith, Orrin Riley, Francis X. Hall, Robert W. Richards, Robert S. Coma, Don R. Ort, John L. Cotton, Donald A. Dupies, Frederick H. Sterbenz
Offices Alexandria, Va., Atlanta, Baltimore, Baton Rouge, Boston, Buffalo, Cape Coral, Fla., Charleston, W. Va., Chicago, Cleveland, Dallas, Fairfield, N. J., Indianapolis, Kansas City, Miami, Milwaukee, Minneapolis, Newark, Del., New York, Orlando, Overland Park, Kan., Philadelphia, Richmond, Seattle, Washington, D. C., Woodbridge, N. J., Lisbon, Rio de Janeiro

Re: Fremont Bridge Approaches

We do not know how the U. S. Customs will arrive at the value or the assessment. We do not even have copies of the drawings. They were discarded on completion of the project as is our usual practice. U. S. Customs indicated they might approach your office for copies of the drawings.

We felt you should be aware of this situation which could result in some costs properly the responsibility of the contractor. We don't know if there are any precedents to this concept, but you may want to consider this, as we are, in future situations involving foreign contractors for work in this country.

Very truly yours,

HOWARD NEEDLES TAMMEN & BERGENDOFF

Paul L Heineman

Paul L. Heineman

PLH/vo

Copy to:
Mr. Walter J. Hart

7214

8

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

FILE:

Salem, Oregon
June 24, 1974

FROM: R. W. Ellison
Bridge Administration Engineer

TO: Memo to the File

SUBJECT:
Fremont Bridge
East and West Approaches
Contracts 7214 and 7310
Duty on Shop Drawings

NOTED
E. S. HUNTER

Today Mr. James C. McCarthy, Special Agent for the U. S. Treasury Department, Bureau of Customs, and partner visited me regarding shop drawings for the structural steel for the East and West Approaches to the Fremont Bridge. They believe it is possible that all assessable duty has not been paid on these shop drawings.

Apparently duty on structural steel is assessed at the rate of 5 1/2% while duty on shop drawings and other blue prints is assessed at the rate of 6 1/2%.

When duty was assessed on the value of the structural steel for these projects, the cost of shop drawings was apparently included and assessed at the rate of 5 1/2%. U. S. Customs is now attempting to determine the value of the shop drawings—that is, the value of the labor to produce the shop drawings in order that they may assess the remaining 1%. It is apparently their opinion that since the drawings were sent by mail from Canron in Canada to Howard, Needles in the U.S., Howard, Needles is liable for the additional duty.

Mr. McCarthy asked that U.S. Bureau of Customs be allowed to borrow our reduced copies of the shop drawings for approximately one month in order that their expert in St. Louis can estimate the value of the drawings. I informed him that I would check with our legal department about the proper procedure for their acquisition of the drawings and would inform him (Mr. McCarthy) of the necessary steps to take.

RWE:dh

cc Jack Sollis
F. B. Klaboe
A. E. Johnson
E. S. Hunter

RECEIVED
JUN 25 1974
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

7214

May 31, 1974

Mr. Walter Barrie
Assistant Attorney General
and Counsel
Department of Justice
100 State Office Building
Salem, OR 97310

Dear Mr. Barrie:

Fremont Bridge Paint Claims

The following people are to be considered a team to work with Attorney John Leahy in connection with the subject claims:

Ed Hardt, Region I Engineer

Charles Lobaugh, HE3 (Shotwell's crew)

John Howard, Resident Engineer, Portland

Robert Shotwell, Resident Engineer, Portland

Robert Cunningham, Assistant Metropolitan Engineer

Jack Davis, Bridge Section, Salem

Very truly yours,

ORIGINAL SIGNED BY
A. E. JOHNSON ja

A. E. Johnson
Deputy State Highway Engineer

AEJ:ja

bc F. B. Klaboe
H. S. Coulter
Walt Hart
Ed Hardt
Charles Lobaugh
John Howard
Robert Shotwell
Robert Cunningham
Jack Davis

#7310

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION
INTER-OFFICE CORRESPONDENCE
Region 1 - Milwaukie

FILE:

May 9, 1974

ORIGINAL SIGNED BY EDWARD L. HARDT

FROM: EDWARD L. HARDT
Regional Engineer

SUBJECT: FREMONT BRIDGE APPROACHES
Inorganic Zinc Failure

TO: JOHN JENKINS
Engineer of Materials & Research

In November, 1973, I released an "Analysis of Zinc Primer Failure" covering the Fremont Bridge Approaches. Most of the technical information that I used regarding water-based inorganic zinc primer, the effect of the Portland environment on it, the function of the acid cure, etc, was obtained from discussions with Dean Mandrell of your staff.

Richard Franzke, attorney for Canron, has reviewed my analysis and submitted his comments. I have enclosed copies of these comments (pages 12-17, 28-49, 85-97) and related exhibits. These deal with (1) the Portland environment, (2) the State's test panel work, and (3) the operation of the acid cure.

You will note that Franzke has taken exception to the conclusions that I reached in my analysis. Please examine this material and give me your analysis of it. In addition to your general comments on Franzke's work, it would be helpful if you could provide answers to the following questions:

RECEIVED
STATE HWY ENGR
MAY 13 '74
REFER TO
FOR
Info | Revs | I/D | D/R | Sign | Act | File

(1) Is the State's test panel program adequate to determine that the Portland environment is not harmful (within 6 months to 1 year) to water-based inorganic zinc, or is Saroyan correct when he says that "test panels prove nothing"?

(2) Were Portland's sulfer dioxide levels high enough during 1970-71 to cause the damage to the zinc which we experienced? On page 31 Franzke goes through some chemical manipulations to show that the film thickness loss would be 1 mil per 27-1/2 days with a wind velocity of 1 MPH. Is this possible?

(3) My understanding of the acid cure is that it is equal to or better than the natural cure. This was the basis for my conclusion that the curing operation is suspect because Saroyan has said that properly cured inorganic zinc can withstand pollutant attack. As pointed out by Franzke, perhaps the key here is that

curing is one thing and formation of water-insolvable salts is another. If the acid "cured" the paint but did not cause the salts to form that would resist the SO_2, then this would explain the failure that we experienced. The question is -- does the acid cure provide the same protection to the inorganic zinc paint as a natural cure?

(4) If the local pollution did cause the failure, would the effect have been a spotty, random failure such as we experienced, or should all of the paint treated essentially the same way have failed?

(5) Depending on the answers to the above questions, was the State remiss is not specifying a seal coat for the inorganic zinc primer?

Please bear in mind that the purpose of my analysis was to gather together all existing data relating to the paint failure in order to assess the State's position. We are still in that process. If, in fact, the Portland environment is harmful to the degree experienced to our inorganic zinc, then the question of faulty workmanship drops out of the picture and the propriety of our specifications becomes paramount. If the acid cure does not provide insolvable salts to protect the zinc, then the question of who ordered the cure becomes important. In essence, we are not trying to defend our position, we are trying to define it.

I have sent only that portion of Franzke's comments which pertain to the above questions for the sake of brevity. If you want or need more of it (total of 97 pages and 75 exhibits), please advise.

ELH/cr
Attachments
cc A. E. Johnson
John Leahy

#7310

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

FILE:

INTER-OFFICE CORRESPONDENCE
Region 1 - Milwaukie
May 9, 1974

FROM: EDWARD L. HARDT
Regional Engineer

SUBJECT: FREMONT BRIDGE APPROACHES
Inorganic Zinc Failure

TO: R. O. CUNNINGHAM
Metropolitan Planning Engineer

RECEIVED
STATE HWY ENGR
MAY 10 '74
REFER TO
FOR
Info | | | D/R | Sign | Act | File

In November, 1973, I released an "Analysis of Zinc Primer Failure" covering the Fremont Bridge Approaches. One of the subjects that I covered was the behavior of the zinc primer on Murphy-Pacific's contract for the main span. My conclusion was that this primer performed satisfactorily as contrasted to the approach primer. This conclusion was based on my own observations to a degree but primarily on discussions with you, together with a report which you prepared for me. Please refer to pages 7 and 8 of my analysis.

Richard Franzke, attorney for Canron, has reviewed my analysis and submitted his comments. He has taken exception to my position as outlined above and instead contends that the main span primer behaved almost identically to the approach primer as to the kind and time of failure.

Attached you will find copies of pages 1 through 28, 84-85, and 94-97 of Franzke's comments, together with the related exhibits. Please examine this material and give me your analysis of it.

Please bear in mind that the purpose of my analysis was to gather together all existing data relating to the paint failure in order to assess the State's position. We are still in that process. If, in fact, the main span primer did fail similar to the approaches, then this would pretty well rule out faulty workmanship by Canron and point toward improper specifications as the cause of the problem. For this reason it is crucial that we have a clear, impartial understanding of the failure relationship of the two painting projects. In essence, we are not trying to defend our position, we are trying to define our position.

I have sent only that portion of Franzke's comments which pertain to Murphy-Pacific's paint for the sake of brevity. If you want or need more of it (total of 97 pages and 75 exhibits), please advise.

ELH/cr
Attachments
cc A. E. Johnson
John Leahy

cy Hael Hart
5-13-74

#7310

s

LEE JOHNSON
ATTORNEY GENERAL

JAMES W. DURHAM
DEPUTY ATTORNEY GENERAL

DEPARTMENT OF JUSTICE
TRIAL DIVISION
106 STATE OFFICE BUILDING
SALEM, OREGON 97310
TELEPHONE: (503) 378-6313

January 25, 1974

Mr. A. E. Johnson
Deputy State Highway Engineer
State Highway Building
Salem, OR 97310

RE: Contractor's Claim - East Fremont Interchange
and West Fremont Interchange

Dear Mr. Johnson

Attached please find a copy of my January 16, 1974, letter relating to these two claims. I evidently misunderstood Mr. Leahy's request on this matter and it is not necessary that all copies of the request for time extension on these contracts be gathered together and forwarded to him. If this project has not yet been completed it maybe terminated.

My misunderstanding of Mr. Leahy's instructions is because he was requesting a copy of the complete file relating to the time extension matters and not that he wanted all copies from the various offices collected. If you have any questions regarding this matter please do not hesitate to contact me.

Sincerely yours

Jack Sollis
Jack L. Sollis
Assistant Attorney General

NOTED
H.S. COULTER

JLS:clh
Attachment
cc: John Leahy

RECEIVED
STATE HWY ENGR
JAN 25 '74
REFER TO
Coulter
FOR

Info	[illegible]	[illegible]	[illegible]	Sign	Act	File

1-28-74
Ke[illegible]
Tr[illegible]

cy Ed Hardt
1-7-74

A. E. [illegible]

- cy Kenney
Hall Har!
1-28-74

7310

LEE JOHNSON
ATTORNEY GENERAL

JAMES W. DURHAM
DEPUTY ATTORNEY GENERAL

DEPARTMENT OF JUSTICE
TRIAL DIVISION
XXXXXXXXXXXXXXXXXXXXXXXX
SALEM, OREGON 97310
TELEPHONE: (503) 378-6313
408 State Highway Building

NOTED
H. S. COULTER

January 16, 1974

Mr. A. E. Johnson
Deputy State Highway Engineer
State Highway Building
Salem, Oregon 97310

NOTED
A. E. JOHNSON

Re: Contractor's Claim - East Fremont Interchange and
West Fremont Interchange

Dear Mr. Johnson

Mr. John Leahy, who is now handling these claims, has asked that all copies of the request by the Highway Division to the Federal Highway Administration for a time extension on both of these contracts be gathered together and forwarded to him. This would include all copies of the request from the contractor in any related correspondence.

Mr. Leahy does not want any copies of this information left in the Resident Engineer's office, Regional Engineer's office or any Administrative office here in Salem. He wants to have all copies in his file. In cases where it is necessary a memo should be placed in the file indicating that these have been sent to Mr. Leahy.

If you have any questions regarding this matter please do not hesitate to contact me.

Sincerely

LEE JOHNSON
Attorney General

Jack L. Sollis
Assistant Attorney General

JLS:hg

RECEIVED
JAN 21 1974
Office of
Assistant State Highway Engineer

Keasly
1-18-74

RECEIVED
STATE HWY ENGR
JAN 17 '74
Coulter
REFER TO
cy. Ed Hardt
FOR

Info	Invss	R/D	D/R	Sign	Act	File
					X	

7214

[illegible]

OREGON STATE
HIGHWAY DIVISION

REGION 1

P.O. BOX 02157 • PORTLAND 97202 • Phone 654-7741, Ext. 262

TOM McCALL
GOVERNOR

GEORGE M. BALDWIN
Administrator of Highways

May 24, 1974

RECEIVED
[illegible] HWY ENGR
MAY 29 '74
REFER TO
FOR

JOHN L. BEATON
Materials and Research Engineer
Division of Highways
5900 Folsom Blvd.
Sacramento, CA 95819

Dear Mr. Beaton:

During the construction of the Fremont Bridge and its approaches in Portland, a $75 million project, a serious problem developed regarding the water-borne inorganic zinc primer paint. Within 2-3 months after application, and before topcoating, the structural steel which had this primer applied began to show rust. The direct cost of repairing this paint breakdown was about $300,000 and the indirect impact costs to the project are alleged to be many times that amount.

This paint was applied in a controlled-environment paint shed in Vancouver, B.C. The paint used was Exxon's RB 191 and 193, and curing acid was used to accelerate the cure.

The painting subcontractor has submitted an analysis of the problem stating that the breakdown was caused by attack of the zinc paint by the SO_2 in the Portland environment. In the presentation Attorney Franzke has used a letter over your signature to illustrate the poor quality of this type of paint. For your convenience I have attached a copy of your letter and page 12 of the presentation.

It would be appreciated if you would amplify your statement that "It did not provide sufficient corrosion protection". Any information that you can provide relating to your experience with water-borne inorganic zinc which might shed some light on our problem

[illegible]
5-31-74

E-123

would be helpful. Incidentally, Oregon has stopped using this product on our maintenance painting of coastal bridges due to the problem of application and cure in the exposed, cool, humid environment.

Thank you for your cooperation.

Sincerely,

ORIGINAL SIGNED BY EDWARD L. HARDT

EDWARD L. HARDT
Regional Engineer

Attachments

ELH/cr
bc A. E. Johnson w/attach.
John Leahy w/attach.

would be helpful. Incidentally, Oregon has stopped using this product on our maintenance painting of coastal bridges due to the problem of application and cure in the exposed, cool, humid environment.

Thank you for your cooperation.

Sincerely,

ORIGINAL SIGNED BY EDWARD L. HARDT

EDWARD L. HARDT
Regional Engineer

Attachments

ELH/cr
bc A. E. Johnson w/attach.
John Leahy w/attach.

STATE OF CALIFORNIA—TRANSPORTATION AG

RONALD REAGAN, Governor

DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS
ATERIALS AND RESEARCH DEPARTMENT
900 FOLSOM BLVD., SACRAMENTO 95819
5900

February 16, 1972

Mr. Richard A. Franzke
Twenty-Third Floor
900 SW Fifth Avenue
Portland, Oregon 97204

Dear Mr. Franzke:

This is in answer to your letter of February 10, 1972 relative to our use of zinc-rich primers.

The lithium silicate self cure type (water base) was abandoned in our 1971 Standard Specifications. It did not provide sufficient corrosion protection. We are enclosing copies of our self cure ethyl silicate inorganic systems. However, we will not specify their use in the future. The ethyl silicate systems are excellent, but are too complex and sophisticated in application properties. Any deviation in these properties can cause serious failures in adhesion and mudcracking of the dried paint film.

From exposure and salt spray testing to date we find that the phenoxy zinc rich primers not only provide excellent corrosion protection, but have eliminated most of the application limitations characteristic of the inorganic zinc rich primers (aqueous and ethyl silicate).

We trust this information will assist you.

Very truly yours,

JOHN L. BEATON, P.E.
Materials and Research Engineer

HAR:bd

Enclosures

RECEIVED
[illegible]
[illegible] 2/22/72 ✓

In summary, if OSHD persists in defining "faulty paint" simply in terms of whether the paint met the manufacturer's specification, there is no sense in examining the issue. However, if "faulty" defines whether the paint prevented the steel from rusting as in theory it is supposed to do, there is irrefutable evidence from OSHD, Carboline, Canron, Can Test and photographs that the paint permitted rusting to occur even in the presence of the specified coating thickness.[15]

The State's reasoning that "faulty paint" must not have been the cause of the rusting because the failure was "spotty" at the same time destroys its contentions that poor workmanship, application methods or use of accelerator are responsible. These issues will be discussed in more detail below.

A-2 PRIMER FAILED DUE TO PORTLAND ENVIRONMENT

ITEM:
(OSHD p 5)

The statement is made "This is the contractor's explanation for the failure of the zinc primer."

COMMENT:

We have never claimed that we in fact know the cause of the primer failure; further we doubt that anyone else "knows" for certain or that we will ever know for certain why the zinc primer, on both of our projects as well as Murphy Pacific's, has not prevented rust as it theoretically should. What we have said, and still believe, is (1) the effects of the atmosphere are the ultimate cause of zinc deterioration, (2) the atmosphere in Portland reached a high level of SO_2 concentration in late 1970, which aggravates the attack, and (3) a seal coat would have avoided the problem.

---

[15] The State of California has abandoned use of water base inorganic zinc "because it did not provide sufficient corrosion protection." See Exhibit 11. This is further evidence that the water base type specified by OSHD has been a disappointment in practice, failing to live up to its theoretical expectations.

#7214

8

OREGON STATE
HIGHWAY DIVISION

REGION 1

P.O. BOX 02157 • PORTLAND 97202 • Phone 654-7741, Ext. 262

TOM McCALL
GOVERNOR

GEORGE M. BALDWIN
Administrator of Highways

May 9, 1974

Mr. Frank Koehler
Exxon Chemical Company
P. O. Box 201
Florham Park, New Jersey 07932

Fremont Bridge Inspection

Dear Frank:

I have your May 3 letter regarding your recent visit to Portland. At that time you mentioned that within a week or two we would have Exxon's comments on John Saroyan's work on the Fremont inorganic zinc failure, as well as your comments on my analysis of the problem.

I am presently analyzing Attorney Franzke's latest comments on the problem. It would be helpful if I had your review of this problem in hand for my work. Can you give me some idea when I might expect your review? Incidentally, my address is as shown above.

Sincerely,

Edward L. Hardt
Regional Engineer

RECEIVED
STATE HWY ENGR
MAY 10 '74
REFER TO
FOR

ELH/cr
bc A. E. Johnson
John Leahy

Cy [illegible]
5-13-74

EXXON
CHEMICALS

EXXON CHEMICAL COMPANY U.S.A.

P. O. Box 201, Florham Park, New Jersey 07932

SPECIALTIES DEPARTMENT
INDUSTRIAL COATINGS DIVISION
J. FRANKLIN KOEHLER
Manager - Marine and Export Sales

May 3, 1974

RECEIVED
[illegible]
MAY 0 [illegible] 1974
RE RME ROE OE TE UE
SO RSM RSC RBI ENV LOC

Mr. E. L. Hardt
District Engineer
Oregon State Highway Division
Highway Building
Salem, Oregon 97310

Inspection
Fremont Bridge

Dear Ed:

I wish to express our sincere appreciation for your courtesy in taking time to meet Don Wood, John Owen and myself last month and for showing us the Fremont Bridge structure. While our primary objective was to introduce Don Wood to you and to have him see the Fremont Bridge, Mr. Franzke's efforts to get us to cancel our visit created a somewhat difficult situation. Nevertheless, we all did find our visit to be of interest and we do thank you for your kindness in meeting us at the airport and in giving us the "guided tour".

We were pleased to have the opportunity of meeting Mr. John Leahy and found his remarks regarding the potential claim situation to be helpful in understanding the present status of the subject problem. I especially want to thank you for the informative pamphlets on Oregon and for your kindness in presenting me with a new case for my Norelco cassette recorder. I hope I will have more time to visit with you during my next trip to the West Coast...meanwhile, best personal regards.

Yours very truly,

Frank Koehler

JFK/emd

P.S. I am forwarding under separate cover a copy of our latest issue of our Coastline book series "Cape May to Montauk Point" which I hope you will find to be of interest.

cc: A E Johnson & John Leahy

An operating division of EXXON CHEMICAL COMPANY, a division of EXXON CORPORATION

#7214

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

FILE:

INTER-OFFICE CORRESPONDENCE
Region 1 - Milwaukie
May 9, 1974

ORIGINAL SIGNED BY EDWARD L. HARDT

FROM: EDWARD L. HARDT
Regional Engineer

TO: JOHN JENKINS
Engineer of Materials & Research

SUBJECT: FREMONT BRIDGE APPROACHES
Inorganic Zinc Failure

In November, 1973, I released an "Analysis of Zinc Primer Failure" covering the Fremont Bridge Approaches. Most of the technical information that I used regarding water-based inorganic zinc primer, the effect of the Portland environment on it, the function of the acid cure, etc, was obtained from discussions with Dean Mandrell of your staff.

Richard Franzke, attorney for Canron, has reviewed my analysis and submitted his comments. I have enclosed copies of these comments (pages 12-17, 28-49, 85-97) and related exhibits. These deal with (1) the Portland environment, (2) the State's test panel work, and (3) the operation of the acid cure.

You will note that Franzke has taken exception to the conclusions that I reached in my analysis. Please examine this material and give me your analysis of it. In addition to your general comments on Franzke's work, it would be helpful if you could provide answers to the following questions:

RECEIVED
STATE HWY ENGR
MAY 13 '74
REFER TO
FOR

(1) Is the State's test panel program adequate to determine that the Portland environment is not harmful (within 6 months to 1 year) to water-based inorganic zinc, or is Saroyan correct when he says that "test panels prove nothing"?

(2) Were Portland's sulfer dioxide levels high enough during 1970-71 to cause the damage to the zinc which we experienced? On page 31 Franzke goes through some chemical manipulations to show that the film thickness loss would be 1 mil per 27-1/2 days with a wind velocity of 1 MPH. Is this possible?

(3) My understanding of the acid cure is that it is equal to or better than the natural cure. This was the basis for my conclusion that the curing operation is suspect because Saroyan has said that properly cured inorganic zinc can withstand pollutant attack. As pointed out by Franzke, perhaps the key here is that

curing is one thing and formation of water-insolvable salts is another. If the acid "cured" the paint but did not cause the salts to form that would resist the SO_2, then this would explain the failure that we experienced. The question is -- does the acid cure provide the same protection to the inorganic zinc paint as a natural cure?

(4) If the local pollution did cause the failure, would the effect have been a spotty, random failure such as we experienced, or should all of the paint treated essentially the same way have failed?

(5) Depending on the answers to the above questions, was the State remiss is not specifying a seal coat for the inorganic zinc primer?

Please bear in mind that the purpose of my analysis was to gather together all existing data relating to the paint failure in order to assess the State's position. We are still in that process. If, in fact, the Portland environment is harmful to the degree experienced to our inorganic zinc, then the question of faulty workmanship drops out of the picture and the propriety of our specifications becomes paramount. If the acid cure does not provide insolvable salts to protect the zinc, then the question of who ordered the cure becomes important. In essence, we are not trying to defend our position, we are trying to define it.

I have sent only that portion of Franzke's comments which pertain to the above questions for the sake of brevity. If you want or need more of it (total of 97 pages and 75 exhibits), please advise.

ELH/cr
Attachments
cc A. E. Johnson
John Leahy

#7214

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION
INTER-OFFICE CORRESPONDENCE
Region 1 - Milwaukie

FILE:

May 9, 1974

FROM: EDWARD L. HARDT
Regional Engineer

TO: R. O. CUNNINGHAM
Metropolitan Planning Engineer

SUBJECT: FREMONT BRIDGE APPROACHES
Inorganic Zinc Failure

RECEIVED
STATE HWY ENGR
MAY 10 74
REFER TO
FOR
Info | [illegible] | [illegible] | D/R | Sign | Act | File

In November, 1973, I released an "Analysis of Zinc Primer Failure" covering the Fremont Bridge Approaches. One of the subjects that I covered was the behavior of the zinc primer on Murphy-Pacific's contract for the main span. My conclusion was that this primer performed satisfactorily as contrasted to the approach primer. This conclusion was based on my own observations to a degree but primarily on discussions with you, together with a report which you prepared for me. Please refer to pages 7 and 8 of my analysis.

Richard Franzke, attorney for Canron, has reviewed my analysis and submitted his comments. He has taken exception to my position as outlined above and instead contends that the main span primer behaved almost identically to the approach primer as to the kind and time of failure.

Attached you will find copies of pages 1 through 28, 84-85, and 94-97 of Franzke's comments, together with the related exhibits. Please examine this material and give me your analysis of it.

Please bear in mind that the purpose of my analysis was to gather together all existing data relating to the paint failure in order to assess the State's position. We are still in that process. If, in fact, the main span primer did fail similar to the approaches, then this would pretty well rule out faulty workmanship by Canron and point toward improper specifications as the cause of the problem. For this reason it is crucial that we have a clear, impartial understanding of the failure relationship of the two painting projects. In essence, we are not trying to defend our position, we are trying to define our position.

I have sent only that portion of Franzke's comments which pertain to Murphy-Pacific's paint for the sake of brevity. If you want or need more of it (total of 97 pages and 75 exhibits), please advise.

ELH/cr
Attachments
cc A. E. Johnson
John Leahy

Cy Hack Hart
5-13-74

7214

April 10, 1974

General Insurance Co. of America
1500 S.W. 1st
Portland, Oregon 97201

Gentlemen:

A second post-final for $57,200 will be made to Andersen-Hannum on Contract No. 7214 for work on the West Fremont Interchange Section of the Stadium Freeway in Multnomah County as soon as the warrant is prepared.

The total amount paid on this contract will be $19,405,337.11 including the post-final payment. Of the total $19,159.88 is for force account.

Very truly yours,

C. W. Mead
COMMISSION SERVICES

fhm

cc Andersen-Hannum
3427 N. E. Halsey St.
Portland, OR 97213

C. T. Keasey
Walt Hart
V. E. Skoog Attn: Dick Hacek
Ed Hardt

7214

April 1, 1974

TO G. L. Green, Division Engineer
Federal Highway Administration

Federal-aid Project
No. I-405-8(20)303

FROM
C. T. Keasey
Construction Engineer

SUBJECT Request Change Order Approval

Contract 7214, Price Agreement No. 2

Project West Fremont Interchange

Highway Stadium Freeway

County Multnomah

This agreement covers a payment to the contractor for repair of the inorganic zinc primer coat which was damaged by rusting of the top girder flange. Payment to the contract under this agreement does not constitute a waiver by the contractor of claims for impact or ripple effect as contained in the claim filed with the State May 9, 1973. All work called for under Extra Work Order No. 14 is deleted by this agreement.

Copies of the Engineer's letter of explanation and daily extra work records as cost justification are attached.

This payment was tentatively recommended for approval by the Federal Highway Administration Area Engineer March 28, 1974.

Your approval as of March 28, 1974 is requested.

Attach.

BMW:dg

7214

5

LEE JOHNSON
ATTORNEY GENERAL

JAMES W. DURHAM
DEPUTY ATTORNEY GENERAL

DEPARTMENT OF JUSTICE
TRIAL DIVISION
106 STATE OFFICE BUILDING
SALEM, OREGON 97310
TELEPHONE: (503) 378-6313

January 23, 1974

NOTED
A. E. JOHNSON

Mr. Norman B. Kobin
Attorney at Law
800 Oregon National Building
Portland, Oregon 97205

Re: Fremont West Interchange Impace Claim of
Andersen-Hannan J.V. on Contract No. 7214

Dear Mr. Kobin

For the purpose of clarifying OSHD's position on the above matter with regard to limitation of suits or action provision in Section 9-16 of the "Standard Specifications for Highway Construction 1964", you are notified that the above claim including the subcontractor claim included therein are rejected.

Sincerely

John Leahy

John Leahy
Chief Trial Counsel

am
cc: Preston Hiefield, Jr.
✓F. B. Klaboe
Walter Barrie
Richard Franzke

cy Coutts
Hall Hart
1-29-74

NOTED
F. B. KLABOE

7214

January 22, 1974

Mr. John Leahy
Chief, Trial Section
Department of Justice
State Office Building
Salem, OR 97310

yellow inc #7310

Dear Mr. Leahy:

Re: Contractor Claims

For over a year negotiations have been carried on over a claim on the East and West Fremont Bridge projects. These negotiations have not been fruitful.

It is now requested that your Department take over and handle these cases for us. Our engineers will be instructed to work with you in any way you see fit.

Very truly yours,

F. B. Klaboe
Administrator and
State Highway Engineer

FBK:ms
cc Walt Barrie
bc A. E. Johnson
H. S. Coulter
W. J. Hart
Ed Hardt
C. T. Keasey
R. N. Bothman

7214

5

LEE JOHNSON
ATTORNEY GENERAL

JAMES W. DURHAM
DEPUTY ATTORNEY GENERAL

DEPARTMENT OF JUSTICE
TRIAL DIVISION
XXXXXXXXXXXXXXXXXXXXXXX
SALEM, OREGON 97310
TELEPHONE: (503) 378-6313

408 State Highway Building

January 16, 1974

Mr. A. E. Johnson
Deputy State Highway Engineer
State Highway Building
Salem, Oregon 97310

NOTED
A. E. JOHNSON

- original in #1310

Re: Contractor's Claim - East Fremont Interchange and
West Fremont Interchange

Dear Mr. Johnson

Mr. John Leahy, who is now handling these claims, has asked that all copies of the request by the Highway Division to the Federal Highway Administration for a time extension on both of these contracts be gathered together and forwarded to him. This would include all copies of the request from the contractor in any related correspondence.

Mr. Leahy does not want any copies of this information left in the Resident Engineer's office, Regional Engineer's office or any Administrative office here in Salem. He wants to have all copies in his file. In cases where it is necessary a memo should be placed in the file indicating that these have been sent to Mr. Leahy.

If you have any questions regarding this matter please do not hesitate to contact me.

Sincerely

LEE JOHNSON
Attorney General

NOTED
F. B. KLABOE

Jack L. Sollis
Assistant Attorney General

JLS:hg

RECEIVED
STATE HWY ENGR
JAN 17 '74
REFER TO
FOR

Orig-[illegible]
cy- Ed [illegible]
Keasley
— CBK
1-18-74

7214

12-13

FREMONT BRIDGE COMPLEX PROJECT INFORMATION

PROJECT	CONTRACT NO.	CONTRACTOR	DATE AWARDED	DATE COMPL.	LENGTH (LANE FT.)	QUANTITIES STRUCT. STEEL (LBS.)	QUANTITIES CONCRETE (CY)	QUANTITIES REINFORCE. (LBS.)	ENGINEERING CONSULTANT	EXPENDITURES CONTRACT AMOUNT	EXPENDITURES TOTAL* AMOUNT	EXPENDITURES AMOUNT FOR ENGINEER CONSULT.
Fremont Bridge Pier Const.	7124	Peter Kiewit Sons' Co.	2-27-68	5-13-70	N/A	520,000	38,000	1,950,000	Parsons, Brinkerhoff, Quade & Douglas	3,957,623	4,188,200	Included in below
emont Bridge Superstructure	7276	Murphy-Pacific Enterprises	7-3-69	11-9-73	17,300	17,450,000	3,910	1,010,000	"	27,391,510	28,817,125	905,878**
West Fremont Interchange	7214	Anderson-Hannan	4-29-69	10-19-72	36,000	15,952,000	65,647	19,150,000	Howard, Needles, Tammen & Bergendoff	19,348,137	20,288,500	1,442,202
West Fremont Interchange (Unit 2)	7623	Drake-Willamette	8-26-71	5-5-73	Included in above	126,200	11,270	3,885,300	"	3,274,682	3,586,900	Included in above
East Fremont Interchange, Unit "A"	7310	Drake-Willamette	9-11-69	4-27-73	32,000	16,156,000	19,817	4,388,500	"	13,175,306	14,089,500	Included in above
East Fremont Interchange, Unit "B"	7311	Drake-Willamette	9-11-69	5-25-73	Included in above	8,740,800	15,725	2,989,400	"	9,026,940	9,450,000	Included in above
t Fremont Interchange, Unit "C"	7312	Drake-Willamette	9-11-69	11-28-72	Included in above	352,500	8,252	2,712,000	"	2,058,970	2,160,000	Included in above
TOTALS					85,300	59,297,500	162,621	36,085,200		78,233,168	82,580,225	2,348,080

TOTAL COST FREMONT BRIDGE COMPLEX $84,928,305

* Includes Additional Anticipated Items, Contingencies, and Construction Engineering

** Includes investigation of in-service crack

NOTED
E. S. HUNTER

RECEIVED
DEC 3 1973
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

7214

LEE JOHNSON
ATTORNEY GENERAL

STATE OF OREGON
DEPARTMENT OF JUSTICE
PORTLAND, OREGON 97201

December 10, 1973

RECEIVED
STATE HWY ENGR
DEC 10 '73
REFER TO

FOR

Info	Inves	R/D	D/R	Sign	Act	File

Pittsburgh Testing Laboratory
Portland Office
611 S.E. Harrison
Portland, Oregon

Attention: Donald Scott, Manager

Re: (1) Inspection Contract of September 30, 1969 Involving the West Fremont Interchange
(2) Inspection Contract of December 23, 1969 Involving the East Fremont Interchange

Gentlemen:

May we have a reply to our letter of November 9, 1973? That letter requested that you contact us concerning your company's potential liability on the above contracts and contained a formal demand of inspection of your records pertaining to your inspection of the process at Canron, Ltd.

It is within all of our interests that attempts be made to resolve this matter amicably. Therefore, your earliest attention to this request would be desirable.

If you have any questions concerning this matter, do not hesitate to give me a call or have your attorney contact me at the above address.

Sincerely,

JOHN H. CLOUGH
Assistant Attorney General

pjw

bcc: Walt Barrie
Al Johnson
✓Fred Klaboe
Ed Hardt

#7214

LEE JOHNSON
ATTORNEY GENERAL

STATE OF OREGON
DEPARTMENT OF JUSTICE
PORTLAND, OREGON 97201

December 10, 1973

RECEIVED
STATE HWY ENGR
DEC 11 '73
REFER TO
FOR

Info	Inves	R/D	D/R	Sign	Act	File

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Portland Office
611 S.E. Harrison
Portland, Oregon

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Sincerely,

JOHN H. CLOUGH
Assistant Attorney General

pjw
bcc: Walt Barrie
Al Johnson
✓Fred Klaboe
Ed Hardt

COLUMBIA GROUP

December 10, 1973

Mayor Neil Goldschmidt
Portland City Council
1021 SW 4th
Portland, Oregon

Dear Mayor Goldschmidt:

It has come to the attention of the Columbia Group that the Irvington Community Association has made some formal, community decision recommendations regarding the Fremont Bridge and several off ramps. I am sure you are aware of the situation in question, the Ivy Street off ramp into Northeast Portland and the on ramp to the Freemont Bridge.

The Columbia Group is in full agreement with and support of the Irvington Community Associations recommendations:

1 To close the Ivy Street ramps east and west.
2 Oppose all freeway construction in the City of Portland.
3 Oppose the construction of the Rose City Freeway.

Our support of the I.C.A. stems from our concern about the continual degradation and destruction of city neighborhoods and our urban fabric in general - all for the convenience of the automobile. In the words of famed planner Lewis Mumford:

> "It's time to renew life of the lifeless city....We need to give people the sense of being someone, somewhere. We need to develop cities that are conducive to a communal spirit....We have created instead, faceless and formless cities."

The Columbia Group strongly favors community participation in planning and decision making. Such participation is an essential ingredient to our democratic society. It is critical at this time and stage of our political history to respond positively to the citizen voice. Faith in the ability of the governed to have impact on their government and their own future demands the city's support of the I.C.A. position.

Cy to Klaboe

Pacific Northwest Chapter
SIERRA CLUB
2637 S.W. Water Street·Portland, Oregon 97201·(503) 222-1963

The Columbia Group has long been opposed to anymore freeway construction in the Portland Metropolitan area. As time passes, all new research evidence and changing events simply reinforce our position.

We are hopeful that the Portland City Council will join with us in working to create a more livable Portland.

Very Truly Yours,

Paul T. Rocks

Paul T. Rocks
Urban Affairs Coordinator

cc: Council Members
Bureau of Planning
Glenn Jackson
State Highway Department

RECEIVED
DEC 13 1973
OFFICE OF
DIRECTOR of TRANSPORTATION

FORM 8-30

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE
Portland, Oregon 97213

DATE November 19, 1973

TO MEMO TO THE FILE

ORIGINAL SIGNED BY R.N. BOTHMAN

[illegible]

FROM R. N. BOTHMAN
Metropolitan Engineer

SUBJECT EAST FREMONT CONNECTION

Bureau of Planning and Model Cities neighborhood representatives met Thursday, November 15, and agreed on an Ivy Street two-lane two-way connection as outlined earlier to connect the Fremont Bridge to Vancouver and Williams Avenues.

The agreement includes a two-way street on Ivy between Williams and Vancouver.

The plan also includes a third right turn lane on Ivy west of Vancouver.

The City of Portland is proceeding to establish acceptable air, noise and traffic levels which they will monitor against the interim solution described above and "regulate" the traffic volumes to meet the standards set.

Monday, November 19, met with Dennis Wilde, Bureau of Planning, to discuss the establishment of both ambient and standards for air and noise which will be used against the interim plan. Traffic is being handled by Bergstrom. The City is handling the noise with a study they have underway in the area and the State will assist with the air, utilizing Tony George of this Division.

Noted
ROBERT E. WHIPPS

ar

RECEIVED
NOV 21 1973
OFFICE OF
DIRECTOR of TRANSPORTATION

cc R. L. Schroeder
G. L. Sund

Copies to Baldwin
Klaboe
11-20-73

NOTED
R. L. SCHROEDER

RECEIVED
NOV 20 1973
Office of
Assistant State Highway Engineer

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213

DATE November 19, 1973

TO MEMO TO THE FILE

ORIGINAL SIGNED BY R.N. BOTHMAN

Noted
GEORGE S. BALDWIN

FROM R. N. BOTHMAN
Metropolitan Engineer

SUBJECT EAST FREMONT CONNECTION

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Noted
ROBERT E. WHIPPS

ar

RECEIVED
NOV 21 1973
OFFICE OF
DIRECTOR of TRANSPORTATION

cc R. L. Schroeder
G. L. Sund

Copies to Baldwin
Klaboe
11-20-73

NOTED
R. L. SCHROEDER

RECEIVED
NOV 20 1973
Office of
Assistant State Highway Engineer

RESOLUTION NO. 31305

WHEREAS, present agreements between the City and the State Highway Division provide that the Ivy Street ramps of the Fremont Bridge be opened to traffic when the bridge is opened approximately November 15, 1973, and

WHEREAS, Emanuel Hospital intends to continue and expand its facility at 2801 N. Gantenbein Avenue as a regional medical care center and the Council wishes to encourage such continuance and expansion; and

WHEREAS, Emanuel Hospital has represented to the Council that direct access from the west end of the Fremont Bridge is essential to its above intention; and

WHEREAS, residents of the Model Cities area, as represented by the Model Cities Citizens Planning Board, have expressed concern that traffic from the ramps will have a severe negative impact on the livability of the surrounding area and have recommended that no ramps be opened until a long-range solution is designed and implemented; and

WHEREAS, the City has applied for Federal Aid for Urban Arterials funds to design a long range solution to the problem;

NOW, THEREFORE, BE IT RESOLVED

1. That the Mayor is authorized to reach an appropriate agreement with the Oregon State Highway Division postponing the immediate opening of the Fremont Bridge Ramps.

2. That the Oregon State Highway Division is requested to undertake, with the City, the necessary steps to design and implement a permanent solution no later than November 1, 1978.

3. That the Office of Planning and Development, with the assistance of the City Traffic Engineer, is instructed to work with representatives of the Eliot, Boise, Irvington and Sabin neighborhoods, Emanuel Hospital and the State Highway Division to present an interim solution to Council no later than December 15, 1973, providing for access to Emanuel Hospital from the Fremont Bridge within a reasonable period with appropriate pre-

cautions for protecting the livability of the neighborhoods. At least the following should be considered:

   a. retaining parking along Fremont Street east to Union Avenue.

   b. a traffic diverter at the intersection of Williams and Beech, and converting Williams and Vancouver into two-way streets.

   c. signing from the bridge which refers only to Emanuel Hospital and local access.

   d. signalization and directional signing which discourages traffic moving north into the Boise neighborhood.

   e. reconstructing the present ramps to minimize the flow of traffic.

   f. acquiring residences along Ivy Street between the ramps and Williams Avenue that may be adversely affected by such interim solution.

4. That the Oregon State Highway Division be requested to undertake, with the City, the measures necessary to implement the agreed upon interim solution and that the bridge ramps be opened immediately thereafter, to occur not later than June 1, 1974.

5. That the Council intends to provide for the ramps to be closed if, during the period preceding implementation of a permanent solution,

   a. traffic counts on streets in the area exceed estimates of the City Traffic Engineer included in the interim plan,

   b. air and noise pollution levels exceed standards to be designated in the interim plan, or

   c. traffic accidents in the area are found by the Council to be excessive as a result of the ramps being open.

RECEIVED
NOV 16 1973
OFFICE OF
DIRECTOR of TRANSPORTATION

Adopted by the Council NOV - 1 1973

Auditor of the City of Portland

Mayor Neil Goldschmidt
October 26, 1973
DB:pjr

#7214

LEE JOHNSON
ATTORNEY GENERAL

STATE OF OREGON
DEPARTMENT OF JUSTICE
PORTLAND, OREGON 97201

RECEIVED
STATE HWY ENGR
NOV 13 '73
REFER TO

FOR

Info	Inves	R/D	D/R	Sign	Act	File

November 9, 1973

NOTED
A. E. JOHNSON

Pittsburgh Testing Laboratory
Portland Office
611 S.E. Harrison
Portland, Oregon

Attention: Donald Scott, Manager

Re: (1) Inspection Contract of September 30, 1969 Involving the West Fremont Interchange
(2) Inspection Contract of December 23, 1969 Involving the East Fremont Interchange

Gentlemen:

This is to advise you that there may be potential liability of your company concerning its work done in inspecting the application of the zinc primer coating of steel girders at Canron, Ltd. in Vancouver, British Columbia.

The impact claims of Drake-Willamette and Anderson-Hannan joint ventures and Canron, Ltd. are being evaluated with the purpose of avoiding protracted litigation over the Fremont Bridge construction. Therefore, please forward this letter to your counsel or insurer and have them contact me at their earliest convenience so that they may be appraised of your company's potential liability and participate in settlement negotiations.

This letter is also to advise you that the State of Oregon, Highway Division, hereby makes formal demand upon you to make available for our inspection and copying all records pertaining to your inspection of the process at Canron, Ltd. pursuant to Section III, Paragraph 3 of your contracts as noted above.

cy Coulter
Keasey
Hart
Bothman
Cunningham
11-13-73

#7214

LEE JOHNSON
ATTORNEY GENERAL

STATE OF OREGON
DEPARTMENT OF JUSTICE
PORTLAND, OREGON 97201

RECEIVED
STATE HWY ENGR
NOV 13 '73
REFER TO

FOR
Info | Inves | R/D | D/R | Sign | Act | File

November 9, 1973

NOTED
A. E. JOHNSON

Pittsburgh Testing Laboratory
Portland Office
611 S.E. Harrison
Portland, Oregon

Attention: Donald Scott, Manager

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Involving the West Fremont Interchange
(2) Inspection Contract of December 23, 1969
Involving the East Fremont Interchange

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The impact claims of Drake-Willamette and Anderson-Hannan joint ventures and Canron, Ltd. are being evaluated with the purpose of avoiding protracted litigation over the Fremont Bridge construction. Therefore, please forward this letter to your counsel or insurer and have them contact me at their earliest convenience so that they may be appraised of your company's potential liability and participate in settlement negotiations.

This letter is also to advise you that the State of Oregon, Highway Division, hereby makes formal demand upon you to make available for our inspection and copying all records pertaining to your inspection of the process at Canron, Ltd. pursuant to Section III, Paragraph 5 of your contracts as noted above.

cy Coulter
Kenney
Zinck
Bachmann
Cunningham
11-13-73

Since it is necessary that you become involved and appraised of this situation as soon as possible, I would appreciate your earliest attention to this matter.

Sincerely,

JOHN H. CLOUGH
Assistant Attorney General

pjw
bcc: Walt Barrie
Al Johnson
Fred Klaboe
Ed Hardt

92 14

October 30, 1973

NOTED
A. E. JOHNSON

Exxon Chemical Company
P O Box 201
Florham Park, New Jersey 47932

Attention Mr. J. F. Koehler

Dear Mr. Koehler:

On behalf of the Oregon State Highway Division as well as for Dean, Jack and myself, we wish to express our thanks to you and to Ron Beers for your courtesy shown us in our trip to Fairbanks last week. Your efficient arrangements allowed us to make the most of the time that we had available and Ron's and your knowledge of the work we were looking at was most helpful.

Our trip has resulted in the elimination of one of the variables in the Fremont primer failure equation. Hopefully they will all be eliminated soon. We appreciate your help.

Very truly yours,

C. T. Keasey
Construction Engineer
By

Edward L. Hardt
Construction Field Engineer

ELH/ag

cc Mr. Ronald Beers

bc ~~A. E. Johnson~~
J. Clough
D. Mandrell

RECEIVED
STATE HWY ENGR
NOV 2 '73
REFER TO
FOR

Info	Inves	R/D	D/R	Sign	Act	File

-7214

October 30, 1973

NOTED
A. E. JOHNSON

Exxon Chemical Company
P O Box 201
Florham Park, New Jersey 47932

Attention Mr. J. F. Koehler

Dear Mr. Koehler:

On behalf of the Oregon State Highway Division as well as for Dean, Jack and myself, we wish to express our thanks to you and to Ron Beers for your courtesy shown us in our trip to Fairbanks last week. Your efficient arrangements allowed us to make the most of the time that we had available and Ron's and your knowledge of the work we were looking at was most helpful.

Our trip has resulted in the elimination of one of the variables in the Fremont primer failure equation. Hopefully they will all be eliminated soon. We appreciate your help.

Very truly yours,

C. T. Keasey
Construction Engineer
By

Edward L. Hardt
Construction Field Engineer

ELH/ag

cc Mr. Ronald Beers

bc ~~A. E. Johnson~~
J. Clough
D. Mandrell

RECEIVED
STATE HWY ENGR
NOV 2 '73
REFER TO
FOR

Info	Inves	R/D	D/R	Sign	Act	File

H S Coulter

FORM E-30

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon

DATE October 30, 1973

TO Memorandum to the File

ORIGINAL SIGNED
EDWARD L. HARDT

FROM Edward L. Hardt
Construction Field Engineer

SUBJECT Inspection Trip
Alaska Pipeline

This is to document our trip to Fairbanks, Alaska, to inspect the Rust-Ban 193 inorganic zinc primer on the Alaska pipeline which is presently stored at Fairbanks. The trip from Portland was made by Messrs. Jack Clough, Dean Mandrell and myself. We were met at Fairbanks by Mr. Frank Koehler, Exxon Chemical Company's Marine/Export Sales Manager, and by Mr. Ron Beers,who is a technican out of Exxon's Houston Laboratory. Mr. Koehler is a troubleshooter for Exxon and Mr. Beers was present in Fairbanks when the paint was applied.

The pipeline is owned by the Alyeska Pipeline Service Company which is a consortium of seven oil companies which have joined together for the Alaska pipeline project. The pipe was painted at and is now stored in Fairbanks, Valdez and Prudhoe Bay. We looked only at the pipe in Fairbanks. Attached to this memorandum are two pages of facts dealing with this pipe.

The pipe was coated in June and July of 1971, so at the present time the paint is almost two and one-half years old. It was applied to a minimum dry film thickness of three mils similar to that specified on the Fremont projects.

We attempted to tally up the amount of pipe stored at Fairbanks and our count showed 213,100 lineal feet of four-foot diameter pipe. The surface area of this amount of pipe calculates at 2.6 million square feet. This is very near the amount of the inorganic zinc involved in the East and West Fremont Interchanges which is 2.5 million square feet. The condition of the paint on the pipeline can be described in one word - excellent.

RECEIVED
[illegible] 1973
Office of
[illegible] Highway Engineer

NOTED [illegible] TER

The pipe was cleaned and painted on the site by an automated system. The shot blasted pipe was run by conveyor past paint nozzles which were fixed in position. After the feed of the pipe was established and the rate of feed of the nozzles was adjusted accordingly, the paint process was automatic. It was mentioned by the Exxon people that Alyeska had two or three inspectors who did nothing but measure the paint film thickness on the finished product. The paint was not post-cured, however, it was cured in about fifteen minutes due to the fact that the pipe was heated to about 140°F. before the application of the paint. The group confirmed the excellent appearance of the paint by taking many thickness readings. These varied from a few which were below three mils to a few which were above four mils with the bulk lying between three and four mils. These is absolutely no sign of any rusting or other distress in the film surface.

It must be kept in mind that what we saw was an example of inorganic zinc paint which had been applied and which is being stored under good controlled conditions. The paint was applied during good weather. It was cured before it was exposed to the elements and there is no question about the adverse local environment affecting it, since Fairbanks has no visible pollution problem. What we saw told us that the Rust-Ban 193 paint when used properly under good conditions performs satisfactorily.

We showed Mr. Koehler and Mr. Beers an album of photographs of the zinc primer problem experienced on the Fremont projects. They confirmed what Mr. Koehler had told us before that these photographs indicate to them inorganic zinc which had been improperly applied and/or cured.

ELH/ag
Attach.

cc F. B. Klaboe w/attach.
A. E. Johnson w/attach.
H. S. Coulter w/attach.
~~W. J. Hart w/attach.~~
R. N. Bothman w/attach.
R. Shotwell w/attach.
J. Howard w/attach.
J. Clough w/attach.
D. Mandrell w/attach.

APPLICATION DETAILS

RUST-BAN 193....ALYESKA PIPELINE PROJECT

STRUCTURE COATED - Exterior surfaces of 48 inch diameter steel pipe; 40 ft. and 60 ft. length sections; a total of approximately 225 miles...involving approximately 13 million square feet.

SPECIFICATION - Blast-clean by centrifugal wheel equipment to "near-white" SSPC-SP-10-63T (Sa 2.5) quality. Apply RUST-BAN 193 inorganic zinc coating to a minimum dry film thickness of 3.0 mils.

APPLICATION SITE - Fairbanks, Valdez and Prudhoe Bay, Alaska

APPLICATOR - Surfcoat Corp., Houston, Texas

APPLICATION PERIOD - June 1971 - July 1971 Fairbanks; July 1971 - August 1971 Prudhoe Bay; January 1972 - March 1972 Valdez.

APPLICATION DETAILS

- A special "blasting/coating shed" was constructed at each application site to handle this job. Automatic blasting and coating equipment was installed - as well as suitable drying ovens, conveyor systems, etc.
- The pipe sections were brought in from field storage and placed onto a conveyor - which rotated and propelled the pipes simultaneously into the "blasting/coating facility". Mill-scale, active corrosion, salt deposits, ice and snow were frequently present on the pipe sections when brought into the facility.
- The pipe sections were first exposed to a heated-air zone where the ice and snow were melted by the hot air discharge from the gas-fired ovens.
- The pipe sections then moved on the conveyor into the first oven (approximately 80 ft. long, 400°F air temperature) where the sections were dried and heated.
- The pipe sections then moved into the Wheelabrator centrifugal-wheel blasting unit - where the exterior surfaces were shot blasted to "near-white" quality. Steel shot was exclusively used to clean the surfaces... no grit and/or grit/shot mixtures being used.
- The blasted pipe sections then moved into the second oven - where the steel temperature was raised to 150-170°F.

- After leaving the oven, the blasted and heated sections were then coated by automatic airless spray equipment with RB-193 to a minimum dry film thickness of 3.0 mils. The pipe was rotated and moved on the conveyor past two stationery spray guns.
- The coated pipe was inspected by Alyeska inspectors within 15 minutes of the application. Any sections which were coated below 3 mils were returned through the blasting/coating line and completely reblasted and recoated. The Alyeska inspectors used mikro-test magnetic dry film thickness gauges.
- After the exterior surfaces had been coated, the interior surfaces of each pipe section were cleaned by automatic wire brushing and then coated by an automatic airless lance gun with a sulfonated oil coating.
- After 15 minutes, the coated pipe was placed outside, picked up by a forked lift truck and carried to the storage area. Cranes lifted the coated pipe from the truck and arranged them on the ground in pyramids of 5 pipe sections each. Rope was used around the pipe (spiral weld pipes only) to separate the pipes.
- Pipe sections moved through the blasting/coating facility at an average speed of 17-20 feet per minute.

- -

Note: Surfcoat also coated additional sections of pipe with Mobil-Zinc No. 1 and "3-M" powder coating. The same facilities were used to apply these coatings.

JFK/emd
10/14/73

7214

Claim 47-5

FILED
OCT 19 1973
CLAY MYERS
SECRETARY OF STATE

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

TOM McCALL
GOVERNOR

F. B. KLABOE
Administrator of Highways

NOTED ON CARD
10-29-73 ko

October 18, 1973

Davies, Biggs, Strayer, Stoel & Boley
900 S. W. Fifth
Portland, Oregon 97204

Gentlemen:

This is to acknowledge your letter of October 16, 1973, informing us that Andersen-Hannan owes your client, Canron Limited, $387,913.98 for structural steel and related items.

From the description given in your letter, this appears to be in reference to the Andersen-Hannan Contract No. 7214 for work on the West Fremont Interchange Section of the Stadium Freeway in Multnomah County.

The General Insurance Company of America furnished the performance bond on this contract. We will advise them of the receipt of your claim, and we will also forward it to the Secretary of State for filing.

Please advise this office when your claim has been satisfied.

Very truly yours,

C. W. Head, Manager
ADMINISTRATIVE SERVICES

by
ORIGINAL SIGNED
R. M. GRAHAM
R. M. Graham, Assistant Manager

RMG:td

cc General Insurance Company of America
Portland Service Office
1500 S. W. First Avenue
Portland, Oregon 97201

Andersen-Hannan
3427 N. E. Halsey Street
Portland, Oregon 97213

bc Hon. Clay Meyers- ✓
Please ack. receipt
of the attached claim
on the enclosed copy
of this letter.

ILED
HEAD

NOTICE OF CLAIM

TO: Oregon State Highway Division
(Department of Transportation)
Highway Building
Salem, Oregon 97310

Notice is hereby given that the undersigned CANRON LIMITED has a claim for labor and materials furnished by Canron Limited to Andersen-Hannan, a joint venture, in connection with structural steel and related items in the sum of

Three Hundred Eighty-Seven Thousand Nine Hundred Thirteen and 98/100 Dollars ($387,913.98)

against the bond taken from Andersen-Hannan, a joint venture, as Principal, and General Insurance Company of America, as Surety, for the work performed on West Fremont Bridge Approaches, State Highway Contract No. 7214.

CANRON LIMITED

By: Davies, Biggs, Strayer, Stoel & Boley

By Richard E. Roy

Attorneys
23rd Floor
900 S.W. 5th
Portland, Oregon 97204

Date: October 16, 1973

RECEIVED
OCT 17 1973
HIGHWAY
ADMINISTRATIVE SERVICES

7214

FORM E-30

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon

DATE October 2, 1973

TO Mr. A. E. Johnson
Deputy State Highway Engineer

FROM Edward L. Hardt
Construction Field Engineer

SUBJECT Zinc Primer Failures
East and West Fremont Interchanges

One of the points which Canron raised in their presentation of the failure of the inorganic zinc primer on the Fremont approaches was the possibility that rust stain running off the top flanges of the girders may have contributed to the breakdown on the primer itself. We have looked at the breakdown with this in mind and have never been able to make a correlation, that is we have never found that the primer that had stain was anymore deteriorated than that without.

In order to put this item to rest completely, if that is possible, we would propose making a field test this coming winter of rust stain on Rust-Ban 193 Inorganic Zinc. We would do this by painting sections of plate, inclining them in the same fashion as the webs on the trapezoidal girders and then allowing a rusty plate to drain on them to simulate the actual girder condition. By means of paint thickness readings, we hope to be able to determine whether the rust staining could have had any effect on the primer failure on the projects.

If you concur in this experimentation, please advise and we will proceed.

ELH/ag

cc J. Howard
R. Shotwell
H. D. Mandrell
J. Clough
A. C. Harwood

Cy. Ed Hardt
Hunter
Coulter
Bothman

RECEIVED
STATE HWY ENGR
OCT 5 73
REFER TO
FOR
Info Inves R.D D.R Sign Act File

APPROVED
DEPUTY STATE HIGHWAY ENGINEER
Date 10-8-73

7214

5

September 17, 1973

General Insurance Co. of America
1500 S.W. 1st
Portland, Oregon 97201

Gentlemen:

A post-final payment for $22,700 will be made to Andersen-Hannan on Contract No. 7214 for work on the West Fremont Interchange Section of the Stadium Freeway in Multnomah County as soon as the warrant is prepared.

The total amount paid on this contract will be $19,348,137.11 including the post-final payment. Of the total, $19,159.88 is for force account.

Very truly yours,

C. W. Mead, Manager
ADMINISTRATIVE SERVICES

fkm

cc Andersen-Hannan
3427 N.E. Halsey St.
Portland, Oregon 97213

C. T. Keasey
Walt Hart
V. E. Skoog Attn: Dick Hacek
L. W. Rulien

47324

FORM E-30

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OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon

RECEIVED
STATE HWY ENGR
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FOR
Info Inves R/D DIR Sign Act File

NOTED
[illegible]

DATE September 13, 1973

TO Memo to the File

FROM Edward L. Hardt
Construction Field Engineer (Bridge)

SUBJECT East and West Fremont Interchanges

On September 11 a meeting was held in the small conference room from 8:30 a.m. to 11:30 a.m. to discuss the inorganic zinc paint failure on the Fremont approaches. Listed below are those who attended.

J. F. Koehler, Exxon Chemicals, Florham Park, New Jersey
J. Owen, Exxon Chemicals, Los Gatos, California
*Jack L. Sollis, Asst. Attorney General, Salem
*Jack Clough, Asst. Attorney General, Salem
*A. E. Johnson, Deputy Highway Engr., Salem
*H. S. Coulter, Asst. Hwy. Engr., Salem
Ed Hardt, Construction Field Engr., Salem
*John Howard, Resident Engr., Portland
*Dean Mandrell, Materials, Salem
*Walter J. Hart, Bridge Engineer, Salem
*R. E. Shotwell, Resident Engr., Portland
Charles Lobaugh, Asst. Res. Engr., Portland
C. T. Christianson, Area Engr., FHWA, Salem
R. W. Pillsbury, FHWA, Salem
*H. A. Schell, FHWA, Salem

* Received a copy of this memo

The purpose of the meeting was for Exxon Paint Co.'s representatives, principally Frank Koehler, to discuss with us their findings and feelings for the cause of the primer failure on the Fremont approaches. I had met earlier with Mr. Koehler and at that time he had said that Exxon was going to duplicate in their laboratory Portland's environment and perform tests to determine what the effect of this environment would be on Rust-Ban 193 paint.

Mr. Koehler opened the discussion by telling the group that his laboratory did not make the above-described test because they felt that the pollution levels which I had described to them earlier out of Canron's report to us were so

G

low that there would be no purpose in duplicating these for a short-term lab test. He emphasized the point that he could not see how the Portland environment could in any way create the problem which we have had.

He passed around color photographs of ship interiors where their paint had been used successfully for a number of years and he mentioned that they had excellent results with the Alaska pipeline which had been painted with Rust-Ban 193. This is contrary to what we had been told by Canron and when queried about this, Mr. Keohler hung fast to his statement that there was nothing wrong with Exxon's paint on the Alaska pipeline. Attached to this memo is a page which Mr. Koehler passed around showing "major applications of Rust-Ban 193".

We talked considerably about the effect of acid cure and Mr. Koehler said that if the paint film had lost its gloss before the acid cure was applied, it was not likely that an excess of acid would cause a future deterioration of the paint film. This is contrary to what Saroyan had reported, that is, that excessive acid cure would cause a rapid primer breakdown.

Mr. Koehler listed three reasons which in his opinion could cause the kind of failure that we had experienced. 1) The anchor profile protrudes through the film (low film thickness). 2) The paint is contaminated with either shot residue which has remained on the steel after blasting or air-carried steel dust which has settled on the wet film. 3) The application of a dry film of paint creating a dry, dusty, porous surface.

I asked Mr. Koehler if he felt there was any merit in the contractor's claim that the rust stain deposited on the primer may have caused a breakdown of the primer itself. He said that he did not believe that this could have contributed to the problem. I also asked about the contractor's contention that if he had been allowed to apply a seal coat over the primer the problem would have been eliminated or at least lessened. Mr. Koehler said that if the primer had been applied and cured properly there would be no need to apply a seal—in our case, this would only have concealed a problem which would break out later. He agreed that my analogy that the seal coat was like a bandage, only concealing a problem, not curing it, was accurate.

The entire vein of Mr. Koehler's discussion with us was that the problem that we had experienced could not be attributed to the Portland environment so that more than likely the explanation lay in the procedures that were used in the painting plant. He said that his experience has been that in 99 out of 100 cases, problems with the inorganic zinc primer are traced back to application problems. He mentioned several times that this is a fine product if used properly but is very difficult to apply by people who are not used to working with it.

The meeting concluded with Mr. Koehler offering to give us any assistance that we might ask for.

ELH:dh

cc F. B. Klaboe

EXXON
CHEMICALS

EXXON CHEMICAL COMPANY U.S.A.

P. O. Box 201, Florham Park, New Jersey 07932

SPECIALTIES DEPARTMENT
INDUSTRIAL COATINGS DIVISION
J. FRANKLIN KOEHLER
Manager-Marine and Export Sales

June 21, 1973

MAJOR APPLICATIONS OF RUST-BAN 193

A) 225 miles of the 48-inch diameter Alaska Pipeline was coated (exterior) with RUST-BAN 193 - and is giving satisfactory performance after over three years of service.

B) RUST-BAN 193 is extensively used in Japan as a plate primer for Japanese marine newconstruction projects. In addition the product has been widely used for protection of exterior surfaces of storage tanks throughout Southeast Asia and Australia.

C) RUST-BAN 193 is used for touch-up coating on all Esso VLCC construction in Europe...particularly in the cargo compartments where introduction of subsequent blasting operations would cause a severe contamination problem. In addition a number of large storage tanks in a French refinery were coated with this material about three years ago.

a division of EXXON CHEMICAL COMPANY, a division of EXXON CORPORATION

7214

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OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon

NOTED
H. S. COULTER

DATE

September 13, 1973

TO

Mr. A. C. Harwood
Metro Bridge Construction Engr.

FROM

ORIGINAL SIGNED
EDWARD L. HARDT
Edward L. Hardt
Construction Field
Engineer (Bridge)

SUBJECT

West Fremont Interchange
Contract 7214
Contractor's Claim for Tri-Met Tax

Some time ago you forwarded a claim from Anderson-Hannan for the cost of the Tri-Met tax which they were required to pay. This question was referred to Jack Sollis and his answer is attached to this letter. As you can see, he feels that the claim should be rejected.

Please advise the contractor accordingly.

ELH:dh
Attachment

cc A. E. Johnson /w/ attach.
H. S. Coulter /w/ attach.

RECEIVED
SEP 1 4 1973
Office of
Assistant State Highway Engineer

LEE JOHNSON
ATTORNEY GENERAL

JAMES W. DURHAM
DEPUTY ATTORNEY GENERAL

DEPARTMENT OF JUSTICE
TRIAL DIVISION
106 STATE OFFICE BUILDING
SALEM, OREGON 97310
TELEPHONE: (503) 378-6313

September 12, 1973

Mr. Ed Hardt
Bridge Section
Highway Division
State Highway Division
Salem, Oregon 97310

Re: Contractors Claim by Anderson - Hannen, Contract No. 7214

Dear Mr. Hardt:

In reply to your inquiry as to whether or not the state is obligated to reimburse a contractor for the tri-met tax which he alledges he was not able to anticipate or did not anticipate at all when he did the contract, my answer is no.

The contractor is unable to anticipate or many times does not anticipate any change in the tax structure during the duration of the contract and many times the income tax straight structure will change both state and federal, social security contributions can change, personal property taxes can change. All of these items are items the contractor accepts the gamble on and in this instance his claim should be disallowed.

Sincerely

Jack L. Sollis
Assistant Attorney General

JLS:clh

RECEIVED
SEP 12 1973
BRIDGE DIVISION

7214

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September 12, 1973

TO G. L. Green, Division Engineer
Federal Highway Administration

FROM

L. H. Young
Office Engineer

Federal-aid Project
No. I-405-8(20)303

SUBJECT Request Change Order Approval

Contract 7214, Price Agreement No. 21

Project West Fremont Interchange

Highway Stadium Freeway

County Multnomah

The Agreement covers settlement of claims for the six items shown. This settlement is understood to cover the complete cost of all work and related work for these items.

Attached is a copy of a letter from the Assistant Metropolitan Engineer along with the justification of costs.

This settlement was tentatively recommended for approval by the Federal Highway Administration Area Engineer on August 9, 1973.

Your approval as of August 9, 1973 is requested.

Attach.
JK:pr

7214

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[illegible] HWY [illegible]

SEP 6 '73

REFER TO

FOR

JD HJR Sign Act

September 5, 1973

Oregon State Highway Department
Highway Building
Salem, Oregon 97310

Reference: West Fremont Interchange
Contract No. 7214

Dear Sirs:

We enclose Estimate No. 44 in respect of the above contract, duly executed by Mr. H. A. Andersen on behalf of the Joint Venture.

Please note that we have signed this Estimate on the understanding that there are still financial matters outstanding, and unpaid by the Highway Commission.

(1) Price Agreement No. 21 in the amount of $22,700.00

(2) Claim for Tri-Met tax in the amount of $8,187.91 submitted in our letter of April 19, 1973.

(3) Structural Steel Painting Claim in the amount of $1,295,071.15 submitted by hand to Mr. Klayboe on May 11, 1973.

NOTED
A. E. JOHNSON

We request your early processing and payment of Estimate No. 44.

Very truly yours,

ANDERSEN-HANNAN

R. S. Everett

R. S. Everett

cy Hunter - TAA
Walt Hart

NOTED
E. S. HUNTER

9-10-73
Copy Walt Hart -TAA

RSE/ljp
x cc: Mr. F. Klayboe, Salem

RECEIVED
SEP 7 1973
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

#7214

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

TOM McCALL
GOVERNOR

F. B. Klaboe
Administrator of Highways

August 20, 1973

NOTED
R. E. [illegible]

Mr. John H. Clough
Assistant Attorney General
Justice Department
State Office Building
Salem, OR 97310

Dear Mr. Clough:

East and West Fremont Interchanges
Inorganic Zinc Paint Investigation

To help in your review and investigation of the documents connected with the inorganic zinc paint problem on the Fremont Interchanges, listed below are the cast of characters who were involved when the work was going on. There may be others whom I have overlooked; however, this will give you a running start at the personnel involved.

The contractor for the East Fremont was a joint venture of Drake and Willamette, the jobs superintendents were Bill Bugge and later Jack Gray. The principals involved were R. E. (Smoky) Grant and Franklin Grant. For the West Fremont Interchange the joint venture was Andersen-Hannan. The job superintendent was Ralph Hannan and Bob Everitt and H. A. Andersen represented the main office.

Canron Ltd. of Vancouver, British Columbia, who did the steel fabrication and painting, was represented principally by Terry Lawry and Dick Davies.

The paint supplier, Enjay Chemical Co. (now Exxon), was represented while the work was going on, by Don Bozman, Don Blue and Leonard Grover. During the course of my current investigation I have talked to Frank Koehler and John Owen.

Pittsburgh Testing Laboratory, who contracted out our inspection in the Vancouver plant, was represented by the Portland manager, Don Scott, and by the lead inspector in the fabricating plant, Ken Peterson.

The Oregon Highway Division was represented in one way or another by the following:

Tom Edwards, Deputy Highway Engineer, called the important shots from Salem headquarters.

A. E. Johnson, Assistant Highway Engineer, Tom Edwards' contact with the Region office and field offices.

Ivan Merchant, Bridge Engineer during the formulation of the project and the work now under controversy. He has since retired but is available in Salem.

Walter Hart, current Bridge Engineer, has little knowledge of the actual field conditions under discussion.

Jack Davis, an assistant in the Bridge Section who has done some research on paint and is knowledgeable about some of our other painting problems.

John Jenkins, Materials Engineer. The Materials Section has the prime responsibility for inspection and approval of materials used on projects.

Jim Chidsey, Structural Quality Engineer under Jenkins. Chidsey has recently been transferred to the Utility Liaison Engineer's post in the headquarters building and is available for discussions.

Don Beecroft has taken over Jim Chidsey's position.

Dean Mandrell, Highway Division's paint expert, works in the Materials Laboratory under Beecroft and Jenkins.

Robert L. Schroeder was Metropolitan Region Engineer during the time the work was being done.

H. S. Coulter, succeeded Schroeder after the work was principally over.

Ed Hardt, Assistant Metropolitan Engineer during the time the work was being done in Portland, contact man between the field offices and the Salem headquarters.

Robert Shotwell, Resident Bridge Engineer on the East Fremont project.

Chuck Lobaugh, Shotwell's assistant. Lobaugh was used late last year as a coordinator for Leonard Lindas to help him assemble the data and information that Leonard needed to handle the case.

John Howard, Resident Bridge Engineer for the West Fremont Work.

Robert Cunningham, Resident Bridge Engineer on the Fremont Superstructure contract.

Representing the Federal Highway Administration during the time the work was going on, were Herb Schell, Bridge Engineer; Bob Pillsbury, Schell's assistant; and Cliff Christianson and Wally Bryant, area engineers assigned to the Metro Region.

If you have any questions regarding the people listed above, their qualifications, experience, whatnot, please ask.

Very truly yours,

C. T. Keasey
Construction Engineer
By
EDWARD L. HARDT
Edward L. Hardt
Construction Field Engineer (Bridge)

ELH:dh

cc A. E. Johnson

RECEIVED
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FOR
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7214

FORM E-20

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

August 1, 1973
Salem, OR 97310

SUBJECT: Inorganic Zinc Primer
West Fremont Interchange
Contract 7214

To: John Jenkins
Engineer of Materials & Research

HIGHWAY LABORATORY BUILDING

In response to our conversation of July 30, 1973, I made a search through my personal diaries for the years 1972 and 1973 to see if I had any notations regarding the problems involved in the application of the inorganic zinc primer on the West Fremont Interchange, the East Fremont Interchange or the Fremont Main Span. I could find nothing in my 1972 and 1973 diaries covering this subject. My 1970 and 1971 diaries must have been left at the laboratory and should be somewhere in Don Beecroft's office. A review of these diaries may well furnish information pertinent to the subject at hand.

I have reviewed your letter to Ed Hardt of July 27, 1973, and concur with the following questions asked to you by Ed in his letter to you.

1. You are correct and accurate in your statement that it was more than one inorganic zinc primer which was suitable for use on the project.
2. I have no comment on this, inasmuch as I was unaware of Mobile Paint's offer to supply paint for the project.
3. Again you are correct, Carbozinc 11 HFP is a completely suitable product for this work.
4. The expression "pertinent to the purchasing inquiry" was deleted from the SSPC specification relative to documented data for inorganic zinc, by the engineering consulting firm which prepared the original inorganic zinc specifications. Why it was deleted; I do not know. I can only assume it was deleted because of the required documentation specified earlier in the specifications and they felt that this might be a conflict.
5. You are correct, the specifications were identical word for word. Interpretation was identical.
6. You are again correct, no tests other than the V-notch test were required of this inorganic zinc primer.

NOTED
A. E. JOHNSON

Going back to the period when I was in the Specifications Section, prior to my coming to work out at the lab, I was involved directly in the preparation for the specifications for the inorganic zinc primer along with other aspects of the special provisions for these projects. The inorganic zinc primer specification that was used was taken virtually in total from the specifications supplied to us by our consulting engineer on the Fremont Main Span. Some revisions were made in the specification to adapt them to our way of thinking. One of the key provisions made was the deletion of the requirement that the intermediate tie coat be required, dropping it down to the intermediate tie coat being required only at the direction of the paint supplier.

At one point of time in the preparation of the specifications, it was a requirement that the inorganic primer be a product that was listed on QPL P23236 list and NAVSECNOTE 9190 list. This requirement was ultimately rescinded due to the fact that there were only, as I recall, two products that were on both of these prequalification lists. It was felt that this requirement was too stringent and limited the choice of materials to too narrow a field. This actually refutes the claim that Enjay's paint was the only brand which, to our interpretation and specifications, could be used on the project. The specification was changed to read as it did in the special provisions for the project that the material be on the QPL 23236 list and be a product where the manufacturer had products also on the NAVSECNOTE 9190 list. This is not to say that the products had to be the same paint, but simply that the manufacturer had to have a product on the QPL 23236 list and also have one other product on the NAVSECNOTE 9190 list.

During the preparation of the special provisions for these projects, I had numerous conversations with Don Bozeman, at that time Technical Representative for Enjay. During one of the conversations I had with Bozeman, he informed me that these specifications as presented by our consulting engineer were prepared in consultation with Enjay's Technical Representative in New York City. Therefore, they did tend to be written so that Enjay's product would not have any problem in conforming with them. However, Bozeman further stated that he felt that many of the other paint manufacturers who were on the QPL 23236 list would not have any problems meeting these specifications either, in that they were broad enough to cover basically all products on the qualified list.

During the preparation of these specifications, I also had conversation with Jay Herpell, who at that time was with Amercoat, and he reviewed these specifications and felt that Amercoat would have no problem conforming to them either. I also had conversation with a representative of another paint firm, whose name and company I cannot remember, but who had a product on the QPL 23236 list, and they felt that these specifications would suit their product also.

Subsequent to my starting to work in the laboratory, I had conversations with a gentleman from Portland who was a sales representative for another product on the QPL 23236 list and his name or the paint company he represented, I cannot recall. There is, however, in my card file one of his cards. On review of my old card file, I might be able to identify both the man and his company. Anyway, he stated in conversation to me that he actually submitted a bid to Conron for supplying the inorganic zinc primer and the vinyl top coats for the West Fremont project. He stated however, that he felt that the inorganic tie coat was necessary for a completely adequate paint system, and so a quotation for the intermediate tie coat was also included as part of the package deal, and he stated that he knew at the time of submission that he would not get the contract for supplying the paint because he knew that other manufacturers would not be requiring the use of the intermediate tie coat.

I hope that this has been of some assistance in preparation of the answer to the claims for the painting for the Fremont project. If there is any further information I might be able to give you, please contact me.

J. E. Chidsey
Railroad and Utility Engineer

JEC:jly

cc: A. E. Johnson
H. S. Coulter
R. N. Bothman
E. L. Hardt
John Howard
H. B. Mandrell
B. E. Beecroft

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OREGON STATE
HIGHWAY DIVISION
METROPOLITAN REGION

PORTLAND, OREGON 97213
JULY 31, 1973

ANDERSEN - HANNAN JV
P.O. BOX 13367
PORTLAND, OREGON 97213

re: WEST FREMONT INTERCHANGE
CONTRACT NUMBER 7214

GENTLEMEN:

Enclosed as per your request are copies of the daily record of extra work for removal of rust stain on the exterior steel surfaces. All of the time shown on the ticket is for stain removal and was agreed upon by your painter and our inspector. Your painter received the original which we assumed would be forwarded on to you. The total of the exterior rust stain work in in excess of $40,000, the extra work order has been prepared for some time, and we hope you will proceed with the billing so this work can be eliminated from your paint claim.

Daily record of extra work tickets were sent to you for the interior gird-er surfaces for signing. We would appreciate your doing this and billing this work also. If you disagree with the time shown, we would be glad to get together and disuuss it with you.

Sincerely,

J. D. Howard

JOHN D. HOWARD
Resident Bridge Engineer

cc: Mr. Al Harwood
Mr. Ed Hardt
Mr. A. E. Johnson ✓
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JDH:dfh
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A. E. JOHNSON

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FORM E-30

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
July 30, 1973

SUBJECT: Inorganic Zinc Primer
West Fremont Interchange
Contract #7214

To: Mr. Ed Hardt
Construction Field Engineer
(Bridge)
OFFICE

NOTED
A. E. JOHNSON

Attached hereto is a copy of a letter from Mobil Paint Company of Canada to Canron. This letter is referred to in response #2 of our letter of July 27, 1973 on this subject.

The letter infers that the decision not to use Mobil paint was made by Canron, probably on the basis of price.

JOHN C. JENKINS
Engineer of Materials & Research

Attachment

JCJ:eb

cc: A. E. Johnson
H. S. Coulter
R. N. Bothman
John Howard

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FOR

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Mobil Paint Company

P.O. BOX 200
645 CORONATION DRIVE
WEST HILL, ONTARIO
TELEPHONE (416) 284-1651

TWX 610-492-4332

August 15, 1969

Mr. B. T. Lawry, P. Eng.
Project Manager
Canron Limited
Western Bridge Division
145 West First Avenue
Vancouver 10, B.C.

Dear Mr. Lawry:

Re: West Fremont Interchange
Shop Coating Quotation Request

In answer to your letter of July 28, 1969, inviting us to reconsider our quotation to you for this project, we respectfully submit the following for your consideration and approval.

We will deal with your "Conditions for Submission" by point as outlined in your letter.

1. We offer the following as supporting evidence that we meet the requirements as specified under Government Designation Type I, Class 3. See attached QPL of Products Qualified under Military Spec. MIL-P-23236, Page 5, and note Mobil Zinc I.

Refer to attached NAVSEC notice 9190 for proof of our self-cured inorganic ethyl silicate Mobil Zinc 7 approval.

In other words, our Mobil Zinc I, self-cured inorganic zinc primer is approved and included in QPL-22236-21, and our Mobil Zinc 7, self-cured inorganic ethyl silicate is approved and included in NAVSEC notice 9190.

2. As requested, enclosed with this quotation are four (4) copies of the "Documented Data" concerning our Inorganic Zinc Silicate Primer.

RECEIVED
JUL 27 1973
MATERIALS DIVISION
OFFICE

cont'd.......

OTTAWA TORONTO CALGARY

Dealing with your request for certified copies of results of "Physical Thickness and Panel" test specimens made up by Canron we refer you to the test run made in your presence and Mr. E. Feather by our Mr. Van Hosen on Friday, August 8, 1969, using Mobil Zinc coating over Canron steel.

3 & 4. Please refer to attached "Documented Data" for coverage of this point.

5. Our sole warranty is that our products are of good material and workmanship and if found by us to be defective in these respects, we will replace the same or refund the purchase price thereof.

Our stipulated standards to be met for the application of Mobil Zinc Primer and for best results, will be found in the enclosed Mobil brochure entitled "Mobil Zinc, A Family of Zinc Rich Coatings".

We are also prepared to supply inspection personnel during surface preparation and paint application.

6. We stipulate that our products are in accord with all relevant Standard Specifications as outlined under this clause.

7. Prices: All prices quoted are in Canadian Funds per Imperial Gallon, F.O.B. your plant, applicable taxes are extra.

Mobil Zinc 7, Self cured Inorganic Ethyl Silicate	$13.08	- 9 68/
Mobil Zinc I, Self-cured Inorganic Zinc Primer	$11.92	- 8 77/
Hi-Build Vinyl Green	$ 5.36	- 3 74/

8. Coverage. It is not practical for Mobil to provide a minimum guaranteed coverage per gallon since it has been our experience that such coverage is dependent upon spray technique, wind velocity, equipment used and a host of other factors.

The attached data however, does give you our best estimate of both theoretical and practical coverage data for inorganic zinc rich coatings. Applications of topcoats are less critical in estimating coverage and generally, a 20-30% differential from theoretical can be expected.

9. Re your request for curing time curves covering variations of temperature and humidity. See Page 3 of attached brochure and graph listed under Mobil Zinc I, and Page 4 for graph curve for Mobil Zinc 7.

Also, please refer to same curves for minimum conditions required to reduce this period to 8 hours and 12 hours.

10. Our primer can be applied successfully over the anchor pattern resulting from Canron cleaning processes. For best results we recommend that the blast profile be in the order of 1-1/2 to 2 mils. Deeper profiles will require more primer usage to obtain the minimum dry thickness required.

11. It is our contention that our Mobil Zinc 7 Self-cured Inorganic Ethyl Silicate Primer is more tolerant of adverse climatic conditions. It is our belief that the use of this exterior type inorganic zinc primer would greatly facilitate shop application and minimize problems which may be associated with topcoat application.

The above stated is offered for your consideration and we sincerely solicit your approval for same.

We will be in contact with you to set up a meeting in order to discuss our quotation in detail.

Yours very truly

J. R. Moulton, P. Eng.
Marketing Manager

JRM:jw

Enc.

August 15, 1969

"DOCUMENTED DATA"

RE: WEST FREEMONT INTERCHANGE SHOP COATINGS

The first large scale application of MOBILZINC I was to the MOBIL ACME done in October 1964 in Sasebo, Japan. This tank coating job has been rated 99% perfect. It is not topcoated.

A tank of the SOCONY VACUUM was coated in June 1965 with MOBILZINC I in order for us to secure approval under MIL-P-23236B. This again was not topcoated and is now in perfect condition.

Eight storage tanks were blasted and externally coated with MOBILZINC I in September of 1964 at the New Albany, Indiana Terminal of Transit Oil Company. These also are in perfect condition and have never received a topcoat.

The second item calls for MOBILZINC I topcoated with vinyl. The MOBIL APEX had her topsides coated in August of 1965 at Skaramonga, Greece, with MOBILZINC I followed by four mils of High Build Vinyl and 1-1/2 mils of Vinyl Enamel. This vessel is in perfect condition.

MOBIL BARGE 33 received the same coatings in April of 1965 on the decks and external hull, excluding the bottom - also in perfect condition.

The MOBIL FUEL and MOBIL ECLIPSE received the same coatings in the fall of 1965.

The curing times called for SECTION 9 of subject letter may be found at the bottom of the first column on PAGE 4 in our brochure entitled "MOBILZINC FAMILY OF ZINC RICH COATINGS".

R. F. LOHR

MOBIL CHEMICAL COMPANY

EDISON, NEW JERSEY

7214

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FORM E-30

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
July 27, 1973

SUBJECT: Inorganic Zinc Primer
West Fremont Interchange
Contract #7214

To: Mr. Ed Hardt
Construction Field Engineer
(Bridge)
OFFICE

NOTED
A. E. JOHNSON

Herewith responses to your questions of July 19 with regard the subject problem:

1. Enjay's paint was the only brand which, through OSHD's interpretation of the specifications, could be used on the project.

This is incorrect. We specified the Zinc be a Type I, Class 3 QPL-P-23236 material. This included many materials, most of which are water borne, but one, Carbozinc II HFP, which is a solvent based, high flash point material, which is the same as the Carbozinc II we have used before, with modified thinners to raise the flash point to in excess of 100°F. Also, on this list is Mobilzinc #1, which is being used on the main span. So, in actuality, there are at least 10 coatings that would be acceptable. One drawback may have been the phrase in the spec which says ".... shall be wholly inorganic," which may have been wholly misinterpreted.

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2. Mobil Paint Company was unwilling to supply paint to Canron because the work would have been done in Canada.

This statement is false. Mobil, in fact, had at least 2 of their people, R. Miller and B. VanHosen, go to Canron trying to get Canron to accept the Mobil paint. (Letter Forthcoming) Mobil Canada was in fact actively interested in participating in this contract with technical people on site most of the time. As per conversation 7-26-73 w/B. VanHosen.

3. Carboline's paint could not be used because in the dry state it is not wholly inorganic, so it does not comply with our specifications.

   False. Carboline will certify that there paint meets this spec totally. (Both Carbozinc II and Carbozinc II HFP)

4. Why was the expression "pertinent to the purchase inquiry" deleted from the SSPC specification relative to documented data for inorganic zinc? (See page 57 of the West Fremont Specification)

   I cannot comment fully on this point in that the omission of this phrase represented a vast change in the thrust of this spec. The phrase should have been included. However, this point is not in fact pertinent to this project.

5. Although our specifications are identical for the approach contracts and the superstructure contract, they were interpreted differently by the OSHD so that Mobil paint could be used on the latter but not the former.

   Incorrect. The specs were identical, interpretation was identical.

6. Other than the V-notch test of Enjay's primer, was there anyother testing of any inorganic zinc for the Fremont projects by the Laboratory prior to approval of the Enjay primer?

   No. The spec would indicate the V-notch test was to be performed subsequent to selection of the primer coating.

The answers above are provided primarily by Dean Mandrell from memory (his and mine) and from examination of our files on the projects. Mandrell and Don Beecroft are also involved in the creation of a chronology of the subject from data on hand here, and hopefully that available from the Bridge and Specifications offices.

I hope this provides the information needed. Please let us know if more is needed.

JOHN C. JENKINS
Engineer of Materials & Research

cc: A. E. Johnson
H. S. Coulter
R. N. Bothman
John Howard

7214

s

July 20, 1973

AIR MAIL

7214

Mr. R. D. Shumway
Construction Engineer
Alaska Department of Highways
P. O. Box 1467
Juneau, Alaska 99801

Dear Mr. Shumway:

The Oregon State Highway Division has recently experienced a serious problem with the failure of a water-borne, inorganic zinc primer paint, Enjay's (now Exxon) Rust-Ban 193. Two to three months after application and before topcoating, the primer showed extensive rust breakthrough accompanied by low thickness readings (1 mil -).

The investigation of this problem has brought up two statements from the painting subcontractor: (1) The State of Alaska has had similar problems and no longer uses water-borne inorganic zinc; and (2) there are "miles and miles" of pipeline stored in Alaska painted with Rust-Ban 193, which is badly rusted and which will be a complete loss.

We would appreciate any information you can furnish with respect to these two statements. Assuming there is some degree of validity to them, we would be interested in such things as place of application of paint, surface treatment of the steel, thickness of applied coating, post cure of the paint (if any), age of paint at time of breakdown, level of inspection of the work, and any other factors which might explain the problem.

We are aware that the Alaskan pipeline does not lie within your jurisdiction, but we are hopeful you will be able to place this request in the proper hands.

Your cooperation is appreciated.

Very truly yours,

ORIGINAL SIGNED BY
A.E. JOHNSON ja.
A. E. Johnson
Deputy State Highway Engineer

bc F. B. Klaboe
H. S. Coulter
W. J. Hart
R. N. Bothman
J. Howard

ELH:ag ja

7214 5

FORM E-30

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon

DATE July 19, 1973

TO Mr. John Jenkins
Materials Engineer

ORIGINAL SIGNED
EDWARD L. HARDT

FROM E. L. Hardt
Construction Field Engineer (Bridge)

SUBJECT West Fremont Interchange
Contract 7214
Inorganic Zinc Primer

Our investigation of the inorganic zinc paint failure on the Fremont projects has opened up some questions principally posed by the contractors and subcontractors involved which we are unable to answer. Therefore, it would be appreciated if you would prepare a written report which answers, in as much detail as possible, the kinds of questions and statements listed below.

1. Enjay's paint was the only brand which, through the OSHD's interpretation of the specifications, could be used on the project.
2. Mobile Paint Co. was unwilling to supply paint to Canron because the work would have been done in Canada.
3. Carboline's paint could not be used because in the dried state it is not wholly inorganic so it does not comply with our specifications.
4. Why was the expression "pertinent to the purchase inquiry" deleted from the SSPC specification relative to documented data for inorganic zinc? (See page 57 of the West Fremont specification.)
5. Although our specifications are identical for the approach contracts and the superstructure contract, they were interpreted differently by the OSHD so that Mobile paint could be used on the latter but not on the former.
6. Other than the V-notch test of Enjay's primer, was there any other testing of any inorganic zinc for the Fremont projects by the Laboratory prior to approval of the Enjay primer?

I realize that you may not have complete knowledge of all of the points that have been raised, nevertheless I would appreciate the information that you do have. Any additional information which is pertinent to the selection and use of the inorganic zinc primer on the Fremont approach contracts would be most helpful.

RECEIVED
JUL 20 1973
Office of
Assistant State Highway Engineer

ELH:dh
cc A. E. Johnson R. N. Bothman
H. S. Coulter John Howard

7214

July 6, 1973

Andersen-Hannan
Post Office Box 13367
Portland, OR 97213

Gentlemen:

Contract No. 7214

This will acknowledge receipt of your paint claim on the West Fremont Interchange project submitted by letter dated May 9, 1973.

The claim has been reviewed and we have found that the only parts considered valid are those which deal with (1) the direct cost of rust stain repair; and (2) the cost differential between Enjay and Carboline vinyl.

Order for Extra Work No. 14 dated November 2, 1971, was issued to cover your costs for the rust stain removal. However, payment cannot be made until you submit a Force Account Statement through the Resident Engineer for this work.

A Price Agreement, dated July 26, 1971, was submitted to you to allow the vinyl paint change. You have not signed and returned the Price Agreement. If you wish payment for this item, you should return this agreement to the Resident Engineer for processing.

The balance of the claim presented has been considered and found to be without merit. If you wish to present additional information or to discuss the matter further, please let us know.

Very truly yours,

F. B. Klaboe
State Highway Engineer

bc A. E. Johnson
H. S. Coulter
Walter Hart
C. T. Keasey
R. N. Bothman
John Howard
Jack Sollis
ELH:fw ms

7214

June 25, 1973

WEST FREMONT INTERCHANGE SECTION
CONTRACT NO. 7214

NOTED
H. S. COULTER

DISCUSSION OF CONTRACTOR'S PAINT CLAIM

INTRODUCTION:

The West Fremont contractor, Andersen-Hannan, submitted to the OSHD on May 9, 1973, a "paint claim" amounting to $1,295,071.15. Their letter of January 22, 1973 outlined the reasons for the claim. It has been given a preliminary review by the Metro Office, Resident Engineer John Howard, and Ed Hardt. Following is an evaluation of this review.

HISTORY

Structural steel for the project was fabricated and given the shop-applied coat of zinc primer paint by Canron Ltd. in Vancouver, B.C. The inspection of this work was contracted by the State to Pittsburgh Testing Laboratory (PTL). The bid item for this work including erection and a top coat of vinyl paint amounted to $9,462,105. First steel arrived in Portland in July, 1970. In November, 1970, bubbling and cratering of the vinyl top coat as it was applied was noticed. The winter season shut down painting efforts before the bubbling problem could be solved.

In February, 1971, rust breakthrough of the zinc primer on girders awaiting erection at the site was noted. This paint was less than two months old. This failure of the inorganic zinc paint system caused much consternation, followed by meetings, studies, investigations, hiring of consultants, etc., in order to find the cause and thus affix responsibility. The OSHD is presently evaluating all the data that has been generated in order to determine responsibility. Contrary to the contractor's letter of January 22, 1973, it has not been recognized that the contractor or Canron is not responsible.

It should be recognized that the girder paint system was most critical to job progress. The insides of the box girders had to be painted with vinyl (over a sound prime coat) before the concrete deck could be formed, consequently, any delay to the paint system would affect all work following girder erection - deck forming, reinforcing, pouring, rails -- the whole job sequence.

The third paint problem which arose was "rust staining". At the State's direction, the top flanges of the girders were left unpainted. These surfaces rusted, the rust products ran down the sides of the zinc-primed girders which stained the primer and deposited material which had to be removed before the vinyl top coat could be applied. The State admitted responsibility for this problem and issued a work order to compensate the contractor for the removal expense.

The vinyl bubbling problem reoccurred in the spring of 1971. In order not to hold up progress of the job, the field requirement for a bubble-free surface was waived for the insides of the girders. (The specifications required a surface free of pin holes but did not mention bubbling.) The field testing of different kinds of vinyl products to eliminate the bubbling was done at State expense. As a result, a change

Fault admitted

was made at State expense to a more costly vinyl which lessened but did not completely eliminate the problem.

The zinc breakdown problem was never solved. The girders were all painted before the problem became evident. The rusty girders were cleaned and repainted at a cost of about $95,000. The painting subcontractor, Industrial Painting Co., did the work and was paid by the prime who has withheld this amount plus additional sums to cover secondary expenses, from Canron.

DISCUSSION

The contractor's claim is based on his allegation that he was delayed from placing concrete roadway slab over girders for 29 weeks, from October 13, 1970 until May 1, 1971. The claim is subdivided into ten parts as follows:

1. Continuing on site overhead	$ 399,495.30
2. Procurement of Stay-inplace forms & installation Delays caused inefficiencies - required larger crews, added supervision, labor rate escalation, additional equipment time.	25,556.09
3. Forming and placing concrete slabs Additional concrete pump expense, additional form material, "learning curve" interuppted by unfavorable wather and painters strike, "learning curve" slow down caused additional overhead, cleanup of forms used for painting platform for zinc repairs and overhead for this delay, reinforcing steel placed at higher wage rates.	290,054.36
4. Steel Erection Girder erection delayed one week due to rusty splice plates.	6,000.00
5. Repairs to Prime Coat	
Direct Force Account cost	150,538.00
Additional markup (10%) This cost is for (1) repair of rusty zinc and (2) cleanup of rust stain. Item 2 ($55,000) is covered by an approved work order but the contractor has not submitted force account billing.	15,053.80
6. Vinyl Finish Coat	
(a) Change in manufacturer	7,031.85
(b) Delays to painting subcontractor OSHD has submitted a Price Agreement to cover (a) but the contractor has not returned it.	10,000.00
7. Andersen-Hannan work performed under new wage agreements. All work done after June 1, 1971 was attributable to paint delays. This is for new wage rates negotiation after that date.	59,381.64

8. Overtime Premium Costs Overtime to minimize impacts.	$ 19,945.68
9. Canron Claim for expenses Canron's investigation fees and expenses, interest on retainage, and devaluation. Interest on retainage is $76,475.00 which presumably Andersen-Hannan earned while holding Canron's money.	143,092.11
10. Andersen-Hannan Administrative Markup (15%)	168,992.32 - Double or Triple markups
	$1,295,071.15

ANALYSIS

This entire claim is built on the premise that the contractor was delayed 29 weeks through the winter of 1970-71 due to paint problems, principally vinyl bubbling. Our analysis indicates there is no validity to this claim for the following reasons:

1. OSHD did not stop the contractor from vinyl painting in the fall of 1970 as he claims. There was concern for the bubbling problem at this time, but it did not get severe enough to cause the State to stop the work.

2. Weather conditions during late fall and winter 1970-71 would not have allowed painting except on a sporatic day-by-day operation. From October 13 to mid-March, there were only 21 days when the contractor could have painted. It should be recognized that a few days of painting could have been critical as it did not take much painting to make large areas available for concrete forming, nevertheless, the contractor was not prevented by the OSHD from painting vinyl in the fall and winter of 1970-71.

3. In April, 1971, when the weather allowed vinyling to commence in earnest, the OSHD waived its concern for bubbling on the girder interiors so that this factor would not hold up the project.

4. The contractor was delayed from his original schedule during the fall and winter of 1970 but not because of painting problems. The delay was due to late delivery of about 3-1/2 months of steel girders. The contractor submitted a time extension request for 141 days due to labor disputes in the Vancouver, B. C. area. This request resulted in a granting of 80 days time extension. In addition, the contractor encountered erection problems with the first girders such that in the late fall and winter of 1970-71, the steel was not available for painting as he had planned. This is the reason for the delay encountered.

Our evaluation of the inorganic zinc breakdown is not complete, however, a preliminary evaluation indicates that the problem originated with the application procedures in the paint shop, not with the Portland environment. Responsibility here is somewhat clouded by the fact that the work was inspected and accepted by the State's agent, PTL. In spite of this, we tend to feel the prime responsibility should lie with the contractor.

CONCLUSION

Based on the above, the only portions of this claim which we can support are those for rust stain repairs ($55,000) and for cost differential for vinyl paint change ($9,000).

7214 [illegible]

Mr. Richard A. Franzke
Davies, Biggs, Strayer, Stoel and Boley
900 S. W. Fifth Avenue
Portland, OR 97204

Dear Mr. Franzke:

Reference is made to your May 18 letter concerning primer problems on the East and West Fremont Interchange projects.

We have received claims from Andersen-Hannan (Contract 7214) but have not received claims from Drake-Willamette (Contract 7623). Until we have received both claims and have had time to examine them, we will not be in a position to give you an answer.

Sincerely,

George H. Baldwin
Administrator of Highways

cc F. B. Klaboe
A. E. Johnson
H. S. Coulter (enc.)
Walt Hart
R. N. Bothman "
Walter Barrie "

AEJ:ja fn

[illegible]

DAVIES, BIGGS, STRAYER, STOEL AND BOLEY
LAW OFFICES
TWENTY-THIRD FLOOR 900 SW FIFTH AVENUE
PORTLAND, OREGON 97204

TELEPHONE (503) 224-3380
CABLE ADDRESS: HARTPORT

CHARLES A. HART
DAVID L. DAVIES
HUGH L. BIGGS
MANLEY B. STRAYER
THOMAS B. STOEL
PAUL L. BOLEY
FREDERICK H. TORP
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KENNETH D. STEPHENS
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WILLIAM G. MIGELY
GREGORY J. HOWE
JOHN M. SCHWEITZER
WILLIAM F. MARTSON, JR.
MICHAEL M. MORGAN
RICHARD M. BOTTERI

May 18, 1973

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FOR

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Mr. George M. Baldwin
Administrator of Highways
Oregon State Highway Division
Highway Building
Salem, Oregon 97310

Dear Mr. Baldwin:

Re: East and West Fremont Interchange Project (Primer Problems)

This will acknowledge your letter of May 11, 1973 in which you advised OSHD could not formally give us its decision with respect to the paint problem until it has received the claims of the prime contractors. During our telephone conversation on the 11th, I understood you to say that Andersen-Hannan was scheduled to present its claims to the Department that day. Did they make such a presentation, and if not, have you set a date for a meeting with them? If they did present their claims on the 11th, can you advise where the matter stands at this time.

Very truly yours,

Richard A. Franzke

RAF:mm

NOTED
A. E. JOHNSON

RECEIVED
MAY 21 1973
OFFICE OF
ADMINISTRATOR OF HIGHWAYS

721- H S Coulter

FORM E-30

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon

DATE June 1, 1973

TO Memorandum to the File

ORIGINAL SIGNED
EDWARD L. HARDT

FROM Edward L. Hardt
Construction Field Engineer

SUBJECT East and West Fremont Interchanges
Inorganic Zinc Paint

As part of my investigation of the inorganic zinc primer problem on the Fremont approaches, I talked with Mr. John Owen, who is Exxon Paint Company's West Coast representative. (Enjay Chemical Company has changed its name to Exxon Chemical Company.) As a result of this discussion, Mr. Owen said he and other Exxon people would like to meet with me to go over the problem.

Mr. Owen and Mr. Frank Koehler, Marine/Export Sales Manager for Exxon Chemical Company, visited me on May 31, 1973. Neither of these people had been connected with the Fremont project while the work was going on, so they had not actually seen the rusty steel.

We talked for about two hours in the Bridge office in Salem where I outlined the problem, and the fact that I was attempting to track down all possible reasons that would explain it.

After this we spent another two hours in Portland with John Howard and Bob Shotwell, who showed them photographs depicting the rust break-through. We discussed all of the aspects of the problem. I emphasized to Mr. Koehler and Mr. Owen that the contractor's (Canron) explanation of the primer problem was that the Portland environment was too harsh for the Rust-ban 191 and 193 and this caused the premature failure.

Mr. Koehler, the spokesman for the two (he is a graduate of MIT and speaks with considerable technical background and appears to be a world-wide trouble-shooter for Exxon), said that this explanation was not supported by the experience that Exxon has had with its inorganic zinc. He cited examples in Western Europe where the environment was heavily polluted due to industrialization and their product had been used uncoated for several years without any problem. He did mention one location where they had had a problem with the industrial atmosphere affecting one mil of inorganic zinc. The acid in the atmosphere condensed on the paint and caused trouble because there was no rainfall to wash it away. This "trouble" was evidenced by "lepers spots" on the surface which gradually enlarged with time. This would indicate that if the Portland environment had caused the problem with the inorganic zinc, it would have been manifested in a different fashion, that is, the zinc would have become mottled in appearance rather than causing a rusting of the steel itself.

RECEIVED
JUN 5 1973
Office of
Assistant State Highway Engineer

After looking at the photographs showing typical examples of rust bloom on girders, Mr. Koehler said that this looked to him like an application problem. He mentioned that his Company has found that with inorganic zinc paint unless there is "extra good" quality control and inspection in the paint shop, they are likely to have a problem with the application of this paint.

The Exxon people were asked to supply documentation regarding the successful past history of Rust-Ban 191 and particularly 193 used in environment similar to Portland's. I also requested that Mr. Koehler give me a written statement as to his opinion of the performance of Rust-Ban 193 in the Portland environment. He indicated he would respond to the best of his ability.

The Exxon people mentioned that they had lost a large contract in the Philipines because of the poor reputation that their product has as a result of the Fremont experience and they were anxious to get the question cleared up.

ELH/ag

cc A. E. Johnson
H. S. Coulter
~~R.~~ Shotwell
J. Howard
J. Jenkins

I-405-8(20) W. Fremont Interch. Sec., 1971
303 of Stadium Frwy. in Ptld. (Grad.,
#7214 pav., struc., sign., illum.) #6

C & A 3678

3828

4366

7214 MAY 11 1973

Mr. Richard A. Franzke
Attorney at Law
900 S.W. Fifth Avenue
Portland, Oregon 97204

7214

Dear Mr. Franzke:

East and West Fremont Interchange Project
(Primer Problems)
Your Client: Camron Limited

In reply to your letter of April 13 concerning the above problem, I have the following to offer.

Until such time as we have received all of the itemized claims of the prime contractor on this job and have transmitted these claims to the Federal Government for initial consideration, we are not in a position to make any reply as to substantive decisions. The Highway Division will be able to work on the information from the prime contractor as soon as it is received but until it is received and processed, there is no basis upon which a decision can be made.

We appreciate the cooperation you have extended us in the past and the patience you have observed, but we are necessarily limited by the request of the Federal Highway Administration and by the time it takes the prime contractor to provide us with an itemization of his claim concerning this matter.

Sincerely,

George M. Baldwin
Administrator of Highways

cc: F. B. Klaboe
A. E. Johnson
E. S. Hunter
Walter J. Hart
R. H. Bothman
Walter Barrie

JLS:am kw cy H. S. Coulter
5-25-73

Davies, Biggs, Strayer, Stoel and Boley
Law Offices
Twenty-third Floor 900 SW Fifth Avenue
Portland, Oregon 97204

Telephone (503) 224·3380
Cable address: hartport

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WILLIAM F. MARTSON, JR.
MICHAEL M. MORGAN
RICHARD M. BOTTERI

April 13, 1973

Mr. George M. Baldwin,
Highway Administrator
Room 135
State Highway Building
Salem, Oregon 97310

Dear Mr. Baldwin:

Re: East and West Fremont Interchange Project
(Primer Problems)

We are counsel for Canron Limited, steel fabricating subcontractor on both the East and West Fremont approach projects. For the past 14 months we have been negotiating with the Highway Department, principally through the office of Leonard Lindas, in an effort to resolve the question of liability for problems experienced with the inorangic zinc primer that was applied to the steel members on these projects. With the various personnel changes you have experienced within the Highway Department in recent months and our feeling of utter frustration in arriving at a solution to this matter, we felt we should bring the existence of the problem to your attention at this time. We wish to make it clear, however, that in doing so we do not intend to inferentially critize anyone presently within the department; we understand, even though we cannot accept, the complexities of the highway administrative system and the effect of these recent personnel changes.

I will not attempt in this letter to go into great detail concerning the cause and effect of the paint problem. Suffice it to say that the specifications for these projects required use of what might be called a "exotic" new paint system, about which relatively little was known at the time of design. Canron Limited questioned the advisability of using this paint because several manufacturers expressed reluctance to have their products used, but nevertheless it was retained in the specifications. Subsequently, problems developed with the paint, primarily a loss of paint film thickness and rusting. Canron suggested certain preventive and remedial measures at that time, but was not permitted to implement them. The Highway Department officially took the position at that time that the subcontractor alone was responsible for the problem and would have to repair the paint at its expense.

Over a period of several months Canron conducted extensive investigation into the cause of the paint failure, utilizing the services of outside consultants including one of the inventors of the inorangic paint system. This investigation revealed similar failures on other projects and lead to the conclusion that the specifications were inappropriate for this job. The results of our analysis of the problem were presented to Mr. Lindas about 14 months ago with the request the State reconsider the position it initially took, and if it concurred with the conclusions we had reached that it issue a statement retracting its former position and exonerating the subcontractor.

Mr. Lindas and I agreed to pursue this matter "informally" with the hope of avoiding litigation. We also agreed to limit our consideration in the first instance to the question of liability, avoiding for the time being determination of damages attributable to the paint problem. Everyone involved recognized that the answer to the question "who's at fault" did not turn upon the amount of damage.

After repair of the primer was completed, the State paid the prime contractors in full under their contracts. However, the State never retracted its early statements charging Canron with fault. Consequently the prime contractors continued to withhold payment from Canron of approximately $2,000,000 in retainage on the ground that the State, at least officially, had never retracted those statements.

In a further effort to finally resolve the question of responsibility, Mr. Lindas and I agreed upon a joint "arbitration" of the matter and for this purpose Mr. John Saroyan, one of the inventors of the subject paint system, was retained to review the case. He answered specific questions submitted to him and his conclusion was that the entire problem would have been avoided if the specification had been written properly. Notwithstanding this decision, the State Highway Department declined to retract its previous statement without the concurrance of the Federal Highway Administration. The whole case was submitted to the FHA in Salem and eventually it was reviewed by the regional FHA office in Portland which concurred in Mr. Saroyan's conclusion. For reasons that are not entirely clear at this time, some hang-up developed within the FHA so that it now says it will not consent to the Highway Department giving us its decision until the dollar amount of the claims of the prime contractors is established.

It is our understanding the prime contractors are assembling their claims for presentation to the State and also that the Highway Department is assembling some information requested by the FHA. It is our hope and expectation that the Highway Department will work diligently on this problem finally to resolve it. As Mr. Lindas said, this matter has been under discussion for over a year and "good conscience" dictates that the State should not further delay acknowledging that it, and not the subcontractor, is responsible. And as he pointed out, such an acknowledgment would not commit the State to approve any specific monetary adjustment. The prime contractors would of course have to document their entitlement to any additional money.

We will continue to work cooperatively with your legal and engineering people in the hope that this matter can be resolved without litigation. If litigation is necessary it will be extremely expensive and demanding upon all parties. At this time we only ask that you, to the extent practicable, try to impress upon all concerned that this matter desires their prompt and complete attention.

We will appreciate anything you can do to expedite resolution of this matter and of course we would be happy to discuss it further at your convenience or to furnish any additional information you might desire.

Very truly yours,

Richard A. Franzke

Richard A. Franzke

cc: Walt Barrie, Chief Counsel, OSHD

RECEIVED
APR 16 [illegible]
OFFICE OF
ADMINISTRATOR OF HIGHWAYS

7214

May 2, 1973

Davies, Biggs, Strayer, Stoeland and Boley
Twenty-third Floor
900 S.W. Fifth Avenue
Portland, Oregon 97204

Attention: Richard A. Franzke

Gentlemen:

This is in reply to your letter of April 30, 1973, concerning the Andersen-Hannan Contract No. 7214, West Fremont Interchange.

This contract was accepted by the Oregon State Highway Commission on April 18, 1973. This item will be on the agenda for the Commission meeting on May 29 for their formal concurrence.

Very truly yours,

C. W. Head, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:ds

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LAW OFFICES
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PORTLAND, OREGON 97204

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WILLIAM F. MARTSON, JR.
MICHAEL M. MORGAN
RICHARD M. BOTTERI

April 30, 1973

Mr. C. W. Head, Secretary
Oregon State Highway Commission
Highway Building
Salem, Oregon 97310

Dear Mr. Head:

Re: Fremont Bridge

Thank you for your letter of April 13, 1973 concerning status of the Fremont approach project contracts. A day or two after receiving your letter, one of the principals involved in the westside joint venture mentioned to me that their contract (No. 7214) had been accepted. Your summary did not indicate that project had been accepted and I am wondering if some action was taken shortly after your letter was written or if the person who told me this is in error. Would you please advise.

Very truly yours,

Dick

Richard A. Franzke

RAF:mm

Accepted: April 18, 1973
On Agenda, May 29 for
Comm formal concurrence

RECEIVED
MAY 1 - 1973
OREGON
STATE HIGHWAY COMMISSION

NOTED
C. W. HEAD

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April 30, 1973

Mr. C. W. Head, Secretary
Oregon State Highway Commission
Highway Building
Salem, Oregon 97310

Dear Mr. Head:

Re: Fremont Bridge

Thank you for your letter of April 13, 1973 concerning status of the Fremont approach project contracts. A day or two after receiving your letter, one of the principals involved in the westside joint venture mentioned to me that their contract (No. 7214) had been accepted. Your summary did not indicate that project had been accepted and I am wondering if some action was taken shortly after your letter was written or if the person who told me this is in error. Would you please advise.

Very truly yours,

Dick

Richard A. Franzke

RAF:mm

Accepted: April 18, 1973
On Agenda, May 29 for
Comm formal concurrence

RECEIVED
MAY 1 - 1973
OREGON
STATE HIGHWAY COMMISSION

NOTED
C. W. HEAD

5

7214

April 19, 1973

General Insurance Co. of America
Portland Service Office
1500 S. W. First
Portland, Oregon   97201

Gentlemen

Contract No. 7214 awarded to Andersen-Hansen for work on the West Fremont Interchange Section of the Stadium Freeway in Multnomah County was completed on October 19, 1972, and accepted by the Highway Commission on April 18, 1973.

Final payment in the amount of $13,127.70 will be released to the contractor after April 25, 1973. The total contract amount is $19,325,437.11 including $19,159.88 for work performed under force account.

You have been advised previously that claims have been filed with us.

Very truly yours,

C. W. Head, Secretary
OREGON STATE HIGHWAY COMMISSION

ks

cc Andersen-Hansen
3427 N. E. Halsey Street
Portland, Oregon   97213

bc C. T. Keasey
Walt Hart
V. E. Skoog
Attn: Dick Hacek
L. W. Rulien

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

7214

DATE April 16, 1973

TO Oregon State Highway Commission

FROM F. B. Klaboe
State Highway Engineer

SUBJECT Highway Project Acceptance

Contract No. 7214, Work Completed October 25, 1972

Project West Fremont Interchange

Highway Stadium Freeway, County Multnomah

Type of Work Grading, Paving, Structure, Signing & Illum.

Contractor Andersen - Hannan

Recommended Acceptance Date April 18, 1973

The contractor has completed all work according to specifications and I recommend your acceptance of the project. I will assume this matter has your approval, unless advised to the contrary.

This item will be on the agenda at the Commission meeting on May 29, for your formal concurrence.

VG:dgk

cc: C. W. Head
A. E. Johnson
H. S. Coulter
L. H. Young
C. T. Keasey
W. J. Hart
V. Gallagher, File

7214

April 13, 1973

Davies, Biggs, Strayer, Stoel and Boley
Law Offices
23rd Floor
900 S. W. Fifth Avenue
Portland, Oregon 97204

Attention: Richard A. Franzke

-# 7214

Gentlemen:

The attached table is submitted in response to your letter of April 3, 1973.

The table includes all of the available information you requested.

It is impossible to project estimated dates for completion or acceptance where no date is given. There are so many variables involved, especially in these large contracts, that our people have very little idea as to just how long acceptance will take on a given project.

In the event this information is not adequate, please feel free to contact us for specific details. It may be possible to put you in touch with the Resident Engineer for a project, but it is unlikely that he will be able to provide estimated dates for acceptance.

Contract No. 7623 should be nearing completion as the original time limit and extensions appear to have passed.

Very truly yours,

C. W. Head, Secretary
OREGON STATE HIGHWAY COMMISSION

By
R. M. Graham, Assistant Secretary

RMG:ks
Attachment

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RICHARD M. BOTTERI

April 3, 1973

Mr. C. W. Head, Secretary
Oregon State Highway Commission
Highway Building
Salem, Oregon 97310

Dear Mr. Head:

Re: Fremont Bridge

With respect to all of the contracts involved in both the east and west side approach projects on the Fremont Bridge, would you please advise me of the formal status of the contracts, i.e., whether completed or formally accepted by the Highway Commission. If accepted, please advise on what dates; if not, your best estimate of when they will be accepted.

Your assistance in this matter is very much appreciated.

Very truly yours,

Richard A. Franzke

Richard A. Franzke

RAF:mm

Contract No.	Contractor	Job Title	Completed	Accepted
7214	Andersen-Hannan	W. Fremont Inter.	10-19-72	✓
7298	E. Carl Schiewe	E. Fremont Inter.	3-5-70	5-12-70
7310	Willamette River Constructors	E. Fremont Inter. (Unit A)	11-28-72	
7311	Willamette River Constructors	E. Fremont Inter. (Unit B)	11-28-72	
7312	Willamette River Constructors	E. Fremont Inter. (Unit C)	11-28-72	2-2-73
7623	Drake-Willamette	W. Fremont Inter. (Unit 2)		

4782

FILED
MAR 28 1973
CLAY MYERS
SECRETARY OF STATE

NOTED ON CARD
3-30-73 KO

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

7214

March 27, 1973

Blumenfeld, Kalishman, Marx & Tureen
130 South Bemiston Avenue
Clayton, Missouri 63105

Gentlemen:

This is to acknowledge your letter of March 19, 1973, which included two claim letters of your client, Carboline Company.

The first claim is for $23,972.55 against Klaas Bros. Corporation for materials supplied for the Fremont Interchange. This claim appears to be against Contract Nos. 7214 and 7623.

Contract No. 7214 awarded to Andersen-Hannan is for work on the West Fremont Interchange Section of the Stadium Freeway in Multnomah County. The General Insurance Company of America, 1500 S. W. First, Portland, Oregon 97201 furnished the performance bond on this contract.

Contract No. 7623 awarded to Drake-Willamette is for work on the West Fremont Interchange (Unit 2) Section of the Stadium Freeway and Columbia River Highway in Multnomah County. The Travelers Indemnity Company, 700 Main Street, Hartford, Connecticut 06108, and The General Insurance Company of America (address above) furnished the performance bond on this contract.

The second claim for $18,164 against C. H. Savage Company is for materials used on the Yaquina Bay Bridge and the Coos Bay Bridge. This claim appears to be against Contract Nos. 7614 and 7620.

Contract No. 7620 was awarded to A-1 Sandblasting & Steamcleaning Company, Inc., for maintenance painting on the Newport (Yaquina Bay) Bridge Section of the Oregon Coast Highway in Lincoln County. The United Pacific Insurance Company, P. O. Box 1216, Tacoma, Washington 98401 furnished the performance bond on this contract.

Contract No. 7614 was awarded to C. H. Savage Company for maintenance painting on the Coos Bay (McCullough) Bridge Section of the Oregon Coast Highway in Coos County. The St. Paul Fire and Marine Insurance Company, 1500 N. E. Irving Street, Portland, Oregon 97232 furnished the performance bond on this contract.

NOTED
C. W. HEAD

We will advise the sureties of the receipt of your claim letters and will also forward the claim letters to the Secretary of State for filing.

As the invoices referred to in the claim letters did not accompany your letters, we are unable to designate appropriate Contract No. or surety distribution for the above specified claims. We will appreciate receiving information from you that will enable us to specify the claim amount against the correct contracts.

When your client's claims have been satisfied, please advise this office.

Very truly yours,

ORIGINAL SIGNED
C. W. HEAD

C. W. Head, Secretary
OREGON STATE HIGHWAY COMMISSION

cc Drake-Willamette
Andersen-Hannan
C. H. Savage Company
A-1 Sandblasting & Steamcleaning Co., Inc.
General Insurance Co. of America
The Travelers Indemnity Company
United Pacific Insurance Company
St. Paul Fire and Marine Insurance Co.

bc Hon. Clay Myers - Please acknowledge receipt of attached claims on the enclosed copy of this letter.

5

FORM E-30 (REV 10-69)

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

7214

Salem, Oregon
March 23, 1973

#19

SUBJECT: Report on Paint Exposure Test Fremont & W. Fremont & Astoria

To: Mr. A. E. Johnson
Deputy State Highway Engineer
OFFICE

Purpose of Test -

In the early part of 1971, the inorganic zinc primer for the Fremont Bridge approaches began to show premature failure. This was exhibited by rusting through much faster than anticipated for the inorganic zinc system which the State had specified. The manufacturer of the primer, Enjay, the fabricator, and applicator all indicated that for the hostile atmosphere of Portland, rapid deterioration of the inorganic zinc was to be anticipated. A survey of the literature does not substantiate this contention. After much discussion, it became evident that there was likely to be some type of court action taken, by one side or the other, to recover funds. With this possibility in mind, the Asst. Highway Engineer, A. E. Johnson asked the Materials & Research Unit to do investigation of outdoor exposure on the zinc primers used on the Fremont approaches, namely Rust Ban 191, Rust Ban 193 with 6851 post cure, and Carbozinc 11. The first two products are from Enjay Chemical, the last is from Carboline.

The method of test was as follows: Using 16" x 16" steel panels, blasted to "white" metal on both sides, the laboratory air spray Devilbiss MBC gun with the fluid tip, air cap and spring, recommended by the primer manufacturer and the primer supplied by the manufacturer, the panels were coated both sides as follows:

3 each RB191 - 2 mils
3 mils

3 each RB193 - 1 mil - no cure
1 mil - recommended cure rate
1 mil - twice recommended cure rate

3 each RB193 - 3 mil - no cure
3 mil - recommended cure rate
3 mil - twice recommended cure rate

3 each Carbozinc 11 - 2 mils
3 each Carbozinc 11 - 3 mils

RECEIVED
STATE HWY ENGR
MAR 26 '73
REFER TO
FOR

Info	Inves	R/D	D/R	Sign	Act	File

NOTED
A. E. JOHNS

SP*52475-734

Note: The mil thickness given is not an absolute thickness, but a general reference. In some cases, thickness is twice that of the reference.

After coating the panels and letting them cure 72 hours, thickness measurements were made at 5 points on each panel with a calibrated Elcometer, single contact film inspection gage, and the readings recorded. On November 23, 1971, one set of plates was taken to each of the following sites: Astoria Maintenance Yard, South Exposure; East Fremont, on the roof of the Resident Engineer's Building, East Exposure; and West Fremont, on the roof of the Resident Engineer's Building, South Exposure.

General Discussion -

Zinc is one of the most commonly used cathodic protection materials. For large structures, anodes, many times zinc anodes, are used to protect steel which is immersed in water or imbedded in soil, e.g. gas, oil or water lines, telephone cables, etc. Zinc is used for galvanizing small structures that are in splash zones, which do not have constant wetting or that are above water or ground line, or which are too small for protection of an anode, e.g. culvert pipe, above ground piping, gutters, downspouts, etc. In the last few years, zinc as metallized zinc; zinc dust-zinc oxide, inorganic and organic zinc coatings has been used as a primer coating to protect ship decks, cargo containers, off-shore drilling rigs, bridges, etc.

Zinc protects steel by being more reactive than the base metal. For example, zinc protects steel, but would not be satisfactory for the protection of aluminum, which is more reactive than zinc. The mechanism of the protection is basically very simple as long as the zinc is in intimate contact with the steel. In the case where zinc is applied over a good clean blasted surface, and intimate contact is attained, the moisture which generally would cause the steel to rust, reacts instead with the zinc to form salts. This process continues until the ready supply of zinc is depleted. Some of the zinc salts are extremely soluble, as in the case of the chlorides, iodides, nitrates, and sulfates. However, many of the zinc salts are insoluble or nearly so, as in the case of chromate, oxide, phosphates, sulfides and sulfites. Notable among the insolubles are the phosphates, which are the reactive components in the Enjay 6851 post cure solution.

If the zinc is not in intimate contact with the steel, as in the case of poor blasting, or excess vehicle holding the zinc from the steel surface, moisture causes immediate attack on the base metal. Organic zinc primers and zinc dust-zinc oxide primers generally have approximately 90% zinc loading to insure continuity from the outer surface of the primer to the surface of the steel, which allows the zinc to protect the steel. The high loading is required due to the organic vehicle which possibly would act as an insulator. The inorganics, on the other hand, generally contain 80-85% zinc in the dried film. Less zinc is required because the vehicle dries to a conductive inorganic material, insuring good contact.

The particular zinc systems under consideration at the time of testing were Rust Ban 191, a water-borne inorganic silicate, Rust Ban 193, similar to 191, but with a surfactant which promotes better wetting characteristics, thus allowing less concern with surface profile (the 193 was post-cured with RB6851, a phosphoric acid-water material of pH less than 1.0), and Carbozinc 11, a solvent borne ethyl silicate primer.

Site Description -

The Astoria exposure is in the back of the Maintenance yard, generally facing the new Youngs' Bay Bridge. After the first 2 months, three of the plates were used as weights to hold down a plastic cover for some concrete chunks in the yard.

The East Fremont specimens have generally easterly exposure. This site has been very hostile in that lime water from the approach, rocks and anything else dropped from the approach span falls on this area.

The West Fremont exposure is generally southerly. Rocks from the West approach span were dropping at first, but in general, the exposure is no more serious than the general Portland waterside exposure.

AVERAGE COATING THICKNESS MEASUREMENTS, IN MILS, ASTORIA SITE

Date of Reading

System	Nov. 24, 1971	Dec. 22, 1971	March 24, 1972	April 25, 1972	May 26, 1972	June 28, 1972	Aug. 22, 1972	Jan. 24, 1973	Net Change
RB									
191-2	3.9	3.8	3.5	3.4	3.5	3.5	2.9	2.7	-1.2
-3	4.6	4.8	4.3	4.1	3.8	3.9	3.7	3.5	-1.1
RB									
193-1-0	2.0	1.8	1.8	1.8	1.7	1.9	1.9	1.8	-0.2
1-x	1.9	1.8	1.8	1.8	1.8	1.8	1.7	1.6	-0.3
1-2x	2.1	2.2	2.0	2.0	2.1	2.1	2.2	2.2	+0.1
2-0	2.8	2.3	2.8	2.7	2.7	2.6	2.6	2.5	-0.3
2-x	2.6	2.8	2.5	2.5	2.5	2.5	2.3	2.4	-0.2
2-2x	2.6	2.6	2.5	2.3	2.2	2.3	2.8	2.6	-
3-0	2.9	2.7	3.0	2.9	2.8	2.8	2.8	2.4	-0.5
3-x	3.1	2.9	2.9	3.0	3.1	3.0	2.8	2.7	-0.4
3-2x	3.2	2.8	2.8	3.3	3.2	3.2	2.5	2.5	-0.7
GZ11-2	2.6	2.4	2.4	2.4	2.4	2.5	2.4	2.3	-0.3
-3	3.5	3.5	3.5	3.5	3.6	3.5	3.6	3.4	-0.1

AVERAGE COATING THICKNESS MEASUREMENTS, IN MILS, EAST FREMONT SITE

Date of Reading

System	Nov. 23, 1971	Dec. 22, 1971	March 27, 1972	June 28, 1972	Nov. 10, 1972	Jan. 23, 1973	Net Change
R8							
191-2	3.2	3.2	3.3	3.1	3.0	3.0	-0.2
191-3	4.8	4.5	4.1	4.2	3.6	3.5	-1.3
R8							
193-1-0	1.8	1.8	1.8	1.7	1.6	1.6	-0.2
1-x	1.5	1.5	1.6	1.5	1.4	1.3	-0.2
1-2x	1.8	1.6	1.6	1.6	1.6	1.5	-0.3
2-0	2.1	2.0	2.1	2.1	2.0	1.7	-0.4
2-x	2.2	2.1	2.1	2.1	1.8	1.8	-0.4
2-2x	2.4	2.5	2.3	2.2	1.6	1.6	-0.8
3-0	2.9	2.8	2.7	2.5	2.3	2.2	-0.7
3-x	2.9	2.8	2.9	2.9	2.9	2.6	-0.3
3-2x	2.8	2.6	2.7	2.7	2.3	2.2	-0.6
GZ11-2	4.2	4.4	4.3	4.0	3.3	3.2	-1.0
-3	6.0	6.0	6.1	5.8	5.0	4.9	-1.1

AVERAGE COATING THICKNESS MEASUREMENTS, IN MILS, WEST FREMONT SITE

Date of Reading

System	Nov. 23, 1971	Dec. 22, 1971	March 27, 1972	May 26, 1972	June 28, 1972	Aug. 21, 1972	Nov. 10, 1972	Jan. 23, 1973	Net Change
R8									
191-2	3.4	3.4	3.5	3.4	3.4	3.4	3.3	3.3	-0.1
-3	3.4	3.5	3.4	3.3	3.5	3.4	3.3	3.2	-0.2
R8									
193-1-0	1.9	2.0	2.0	1.9	2.0	1.9	1.8	1.8	-0.1
1-x	1.8	1.8	1.8	1.7	1.7	1.6	1.5	1.5	-0.3
1-2x	2.0	1.9	1.9	1.6	1.6	1.6	1.5	1.5	-0.5
2-0	2.7	2.5	2.8	2.3	2.4	2.3	2.2	2.2	-0.5
2-x	2.7	2.6	2.8	2.6	2.7	2.6	2.6	2.5	-0.2
2-2x	2.3	2.5	2.4	2.3	2.2	2.1	1.9	2.0	-0.3
3-0	3.1	2.9	2.7	2.8	2.7	2.4	2.4	2.4	-0.7
3-x	3.4	3.3	3.1	2.9	2.7	2.6	2.7	2.6	-0.8
3-2x	3.8	3.7	3.7	3.1	2.5	2.9	2.9	2.2	-1.6
GZ11-2	3.9	4.0	3.7	3.5	3.4	3.4	3.3	3.2	-0.7
-3	4.5	4.4	4.3	4.3	3.9	4.1	4.2	4.1	-0.4

Discussion of Data -

The readings were all taken by the writer. The value given are all averages of 5 readings taken one at each corner and one in the center of the plate. Some variation is noted, due to the slight variation of the point of reading. The general sites were kept constant. These samples exhibit slight rust at or near the edges where handling during priming caused reduced millage.

These data indicate zinc is a sacrificial metal, slowly giving up thickness to protect the steel. This was known all along. The losses are not greater than expected, and are inconclusive, which is the best conclusion we could have in this case. Further investigation should be given to the surface contaminants that have attacked the zinc. This would require terminating exposure, returning them to the lab and performing further lab tests on the panels, which I would recommend.

In conclusion, these data do not lend credence to the assertion that rapid deterioration is inherent with this type of primer in Portland exposures.

JOHN C. JENKINS
Engineer of Materials & Research

By Dean Mandrell

H. DEAN MANDRELL
Materials Testing Supervisor

HDM:eb

cc: W. J. Hart

LAW OFFICES
BLUMENFELD, KALISHMAN, MARX & TUREEN

JOHN A. BLUMENFELD
RICHARD MARX
JEROME KALISHMAN
CHARLES M. TUREEN
PHILLIP J. PASTER

PHILIP G. KAPLAN
PAUL R. FERBER

PHILIP C. KOPITSKY
COUNSEL

130 SOUTH BEMISTON AVENUE
CLAYTON, MISSOURI 63105
(314) 863-0800

March 19, 1973

Mr. Cecil Head
Secretary of State Highway Commission
State of Oregon
Salem, Oregon

Re: Carboline Co. vs. Klaas Bros. Corp. & C. H. Salvage Co.

Dear Mr. Head:

Enclosed please find letters from my client, Carboline Company, in regard to their claims against the above-styled corporations. Please advise if you need further information to make these claims a matter of record. Copies of their letters are going to the respective sureties.

Very truly yours,

Philip G Kaplan

Philip G. Kaplan

PGK/smh

cc: Traveler's Indemnity
cc: General Insurance Co. of America
cc: United Pacific Insurance Company
cc: St. Paul Fire & Marine Insurance Co.

LAW OFFICES
BLUMENFELD, KALISHMAN, MARX & TUREEN

JOHN A. BLUMENFELD
RICHARD MARX
JEROME KALISHMAN
CHARLES M. TUREEN
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March 19, 1973

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Secretary of State Highway Commission
State of Oregon
Salem, Oregon

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Dear Mr. Head:

Enclosed please find letters from my client, Carboline Company, in regard to their claims against the above-styled corporations. Please advise if you need further information to make these claims a matter of record. Copies of their letters are going to the respective sureties.

Very truly yours,

Philip G. Kaplan

PGK/smh

Philip G. Kaplan

cc: Traveler's Indemnity
cc: General Insurance Co. of America
cc: United Pacific Insurance Company
cc: St. Paul Fire & Marine Insurance Co.

AREA CODE 314
644-1000

carboline®

CABLE-CARBOCO-ST.LOUIS
TELEX-044-7332
TWX-1-910-761-0449

CORROSION RESISTANT COATINGS
FOR MAINTENANCE • EQUIPMENT • TANK LININGS • FLOORS

328 HANLEY INDUSTRIAL COURT
ST. LOUIS, MO. 63144

Mr. Cecil Head
Secretary of State Highway Commission
State of Oregon
Salem, Oregon

Dear Mr. Head:

Notice is hereby given that the undersigned, Carboline Company, a Missouri corporation, has a claim for $23,972.55 owed for materials (various coatings as described on invoices attached) delivered to Klaas Brothers Corporation and used on the east and west Fremont interchanges wherein Donald Drake and Anderson-Hannon were the general contractors and Traveler's Indemnity Company, 700 Main, Hartford, Conneticutt and General Insurance Company of America, 1500 Southwest 1st Street, Portland, Oregon were the sureties.

It is our understanding that you will acknowledge receipt of this letter and advise the appropriate parties. Carbon copies have been forwarded to the above-named sureties.

Very truly yours,

W. J. Rosenbaum

AREA CODE 314
644-1000

carboline®

CABLE-CARBOCO-ST.LOUIS
TELEX-044-7332
TWX-1-910-761-0449

CORROSION RESISTANT COATINGS
FOR MAINTENANCE • EQUIPMENT • TANK LININGS • FLOORS

328 HANLEY INDUSTRIAL COURT
ST. LOUIS, MO. 63144

Mr. Cecil Head
Secretary of State Highway Commission
State of Oregon
Salem, Oregon

Dear Mr. Head:

Notice is hereby given that the undersigned, Carboline Company, a Missouri corporation, has a claim for $18,164.00 owed by C. H. Salvage Company, 4126 S.E. Milwaukee Avenue, Portland, Oregon pursuant to materials shipped to said company (which said materials are described on invoices attached) to apply on the Yaquina Bay Bridge and the Coos Bay Bridge wherein A-1 Sandblasting and Steam Cleaning Company, Inc. was the general contractor and United Pacific Insurance Company, P. O. Box 1216, Tacoma, Washington and St. Paul Fire & Marine Insurance Company, 1500 N.E. Irving Street, Portland, Oregon were the sureties.

It is our understanding that you will acknowledge receipt of this letter and advise the appropriate parties. Carbon copies have been forwarded to the above-named sureties.

Very truly yours,

W. C. Rosenbaum

5

7214

7214

March 12, 1973

Andersen-Hannan
Post Office Box 13367
Portland, OR 97213

Attention Mr. H. A. Andersen

Gentlemen:

West Fremont Interchange
Contract No. 7214

For a considerable length of time we have been studying the effect of various paint problems and have been in communication with the Federal Highway Administration. We have been advised by the Federal Highway Administration that it is unable to come to any conclusions without the contractor's specific claims.

On February 6, you were urged to submit all of your claims in connection with paint-related problems. In order that we may proceed with a settlement, it is requested that all of your claims be submitted as soon as possible.

Very truly yours,

A. E. Johnson
Deputy State Highway Engineer

AEJ:ja

cc Vernon V. Cusack
Acting Division Engineer
Federal Highway Administration

bc F. B. Klaboe
H. S. Coulter
L. I. Lindas (We will leave it up to you to
Walt Hart advise Mr. Franzke.)
R. N. Bothman
R. O. Cunningham
Robert Shotwell
John Howard
V. E. Skoog

OREGON STATE
HIGHWAY DIVISION

7214

HIGHWAY BUILDING • SALEM, OREGON • 97310

DATE March 7, 1973

Federal-aid Project
No. I-405-8(20)303

TO

V. V. Cusack, Acting Division Engineer
~~R. E. Simpson, Division Engineer~~
Federal Highway Administration

FROM

L. H. Young
Office Engineer

SUBJECT Request Change Order Approval

Contract 7214 Price Agreement No. 19

Project West Fremont Interchange

Highway Stadium Freeway

County Multnomah

The agreement covers settlement of all claims relative to pile driving on the subject project. After considerable negotiations it was determined to be in the best interest of the State to settle for a lump sum of $109,000.

The cost justification has been separated into compensation for additional driving at $56,168 and compensation for additional splicing at $52,832.

The Federal Highway Administration Assistant Division Bridge Engineer tentatively recommended approval of the compensation for additional driving based on the justification of costs by the Resident Engineer. He also tentatively recommended approval of a portion of the costs for additional splicing based on a supplemental justification of costs prepared by the Bridge Section.

Attached is a copy of pertinent correspondence along with the justification of costs.

The claim settlement in the amount of $109,000 includes $56,168 for driving and $38,390 for splicing to be paid on a participating basis and the remaining $14,442 for splicing to be paid on a nonparticipating basis.

Your approval as of February 23, 1973 is requested.

Attach.

BMW:dqk

Form FHWA-121 (12-67)
UNITED STATES GOVERNMENT

Memorandum

7217

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: February 28, 1973

In reply refer to: 10-35.6

NOTED
H. S. COULTER

TO : Mr. George M. Baldwin, Administrator of Highways
Salem, Oregon
Attn: Mr. A. E. Johnson

for R. M. Avery

FROM : Vernon V. Cusack, Acting Division Engineer
Salem, Oregon

#7214

SUBJECT: Oregon Project I-405-8(20)303 and
I-405-8(22)304 - #7210 & #7211
Fremont Bridge Approaches
Paint Claim

We have received word from our Regional Counsel on his review of the Saroyan report and the Canron Limited description of the difficulty encountered on the paint application of Fremont Bridge Interchange superstructure.

It should be pointed out that this myriad of information deals only with the subcontractor's problems with meeting the specifications, and there is no indication as to what type or amount of claim the prime contractor may make. Further, it is noted that the State has not given their analysis, engineering and legal, as to the propriety of the subcontractor's claim.

Our review indicates that the subcontractor appears to be entitled to an equitable adjustment. The specifications, in the view of the expert hired by both sides (John R. Saroyan), were defective and could not achieve the desired results; thus, the State would be subject to liability as drafter of the specifications. This does not exlude the possibility that there may be certain responsibilities accruing to Canron Limited.

It is difficult to come to any conclusion without the contractor's specific claim and the respective support. This information must be submitted to evaluate the validity of the claim. We feel that it is necessary for the State to document their position in a similar manner to the Canron Limited submittal. Until this is accomplished Federal Highway Administration is not in a position to approve or disapprove any adjustment.

Coulter

Info	FOR	REFER TO	MAR 1 '73
Inves			
R/D			
D/R			
Sign			
Act			
File			

RECEIVED
STATE HWY ENGR

RECEIVED
MAR 5 1973
Office of
Assistant State Highway Engineer

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATI
222 S. W: Morrison St.
Portland, Oregon 97204

RECEIVED
FEB 26 1973
LEGAL

February 23, 1973

IN REPLY REFER TO
10-00.11

Gen'l files ✓

NOTED
A. E. JOHNSON

#7310 Copy [illegible]

Leonard I. Lindas, Esq.
Assistant Attorney General
& Counsel
408 State Highway Building
Salem, Oregon 97310

#7314

Re: Oregon I-405-8(20)303; I-405-8(22)304
Fremont Bridge Paint Problem

Dear Leonard:

This is pursuant to our conversation of February 20, 1973 relative to Mr. Franzke's letter of February 14, 1973. As indicated, this office as well as our Regional Bridge Division reviewed the documentation previously submitted by Mr. Franzke on behalf of Canron Limited.

On February 14, 1973, we advised the Oregon Division office that from the material submitted it appeared the State would under the contract be liable to Canron Limited as a result of the defective specifications. This does not exclude responsibility on the part of the subcontractor for any errors, etc., attributable to their work. It should be emphasized that the Regional review was based only on the documents submitted, largely by Canron.

Since there has been no claim by the prime for the sub nor itself, it appears we are operating in a partial vacuum. As you know, in cases such as this Federal-aid participation is normally based on a request by the State fully documented as to the action they have taken or desire to take. At this time it is my understanding that the Division office has not received a request from the Highway Division for Federal-aid participation. It may be that the Highway Division or our Division office may have additional facts which would alter our previous opinion. Thus, until

NOTED
F. B. KLABOE

engineering and legal documentation justifying a proposed or consummated course of action is submitted, Federal Highway Administration can take no action.

In the event you feel a meeting on this would be desirable, please advise.

Very truly yours,

ROBERT B. RUTLEDGE
Regional Counsel

cc: David E. Wells w/Franzke's 2/14/73 letter
Vern Cusack w/Franzke's 2/14/73 letter
Roy Tokerud w/Franzke's 2/14/73 letter

7214

February 6, 1973

Andersen-Hannan
Post Office Box 13367
Portland, OR 97213

Attention Mr. H. A. Andersen

Gentlemen:

This will acknowledge your letter of January 22 concerning various problems in connection with painting of the West Fremont Interchange, Contract No. 7214. We do not agree with your statement in the first paragraph..."that a consensus has been arrived at to the point where it is now recognized that there is no responsibility on our part or the part of our fabricator for the defects and deficiences requiring repair."

We understand that you are withholding payment of Canron's retainage on the basis of a purported statement by Mr. Edwards that the failure of the zinc primer was the responsibility of Canron. We have made an exhaustive investigation of the problem and now advise you that we are unable to determine at this time the responsibility of failure.

In your January 22 letter you are implying numerous claims in connection with the problem with the zinc primer as well as the vinyl coat, and until these items are presented in detail, it will be impossible to consider any claims. I would urge you to submit as soon as possible all of your claims in connection with your project.

Very truly yours,

F. B. Klaboe
State Highway Engineer

cc Henry Hannan
H. Scott Coulter
Walter J. Hart
R. N. Bothman
L. I. Lindas
V. E. Skoog
A. E. Johnson
John Howard

AEJ:ms

H. A. ANDERSEN CO.

GENERAL CONTRACTORS
3427 N. E. HALSEY ST. – PORTLAND, OREGON 97232
235-8661

TRANSMITTAL NOTICE

RECEIVED
STATE HWY ENGR
JAN 30 '73
REFER TO
FOR

DATE Jan. 29, 1973

HAA JOB NO. G-001

TO: Oregon State Highway Department
Highway Building
Salem, Oregon 97310

Attention: Al Johnson

REFERENCE: West Fremont Interchange
Contract No. 7214

TRANSMITTED ARE THE FOLLOWING:

NO. OF COPIES	DESCRIPTION	DWG. NO.	SHEET NO.
1	Copy of letter to Oregon State Highway Department, dated Jan. 22, 1973 Re: Inorganic Zinc Painting on the structural steelwork.		

REMARKS: For your information.

CC:

H. A. ANDERSEN CO.

B. S. Everett jdb

M. Jackson

ANDERSEN-
HANNAN
A JOINT VENTURE
BOX 13367 PORTLAND, OREGON 97213 ▪ PHONES: 235-8661 / 777-1401

RECEIVED
STATE HWY ENGR
JAN 25 '73
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

January 22, 1973

Oregon State Highway Department
Highway Building
Salem, Oregon 97310

Reference: West Fremont Interchange
Contract No. 7214

Dear Sirs:

The questions involving the inorganic zinc paint on the structural steelwork has been the subject of substantial discussion, correspondence and consideration, particularly between representatives of the Oregon State Highway Department and Canron, our steel fabricator. We understand that a consensus has been arrived at to the point where it is now recognized that there is no responsibility on our part or the part of our fabricator for the defects and deficiencies requiring repair.

We therefore believe it proper to again inform you of our request for additional compensation arising not only from the primer coat problem, but also other problems as they relate to the paint application.

There are a number of specific areas concerning various problems and we enumerate these below:

(1) RUSTING OF THE TOP FLANGES

By letter from the Oregon State Highway Department dated July 2, 1970, we were informed not to paint the top flange of girders in contact with concrete.

During the interval between plant fabrication, plant paint priming and erection at the jobsite, the top flange rusted and the products of rusting ran down over primed surfaces below causing staining and rusting of other primed surfaces.

After most of the remedial work had been completed to the inside faces of the girders, Oregon State Highway Department issued Order for Extra Work No. 14, dated November 2, 1971, stating that rust staining was beyond our control and authorizing an expenditure of $17,450.00 for this work.

continued

We replied, stating that we would perform the work ordered under certain conditions, that the extent of the work involved is substantially greater than indicated to which Oregon State Highway Department replied that they could find no disagreement regarding payment of damage to the zinc primer caused by rusting of the top flange.

Besides the direct cost of the remedial work by our subcontractor in carrying out the agreed upon method of rust stain removal, there are other substantial costs not stated or recognized by Order for Extra Work No. 14.

These other costs consist of job schedule delays, impact on other phases of work caused by rescheduling other work under inclement weather conditions, additional labor costs for work performed under new union scale wage agreements; purchase of additional concrete forming material to minimize the impact; continuing on site overhead costs for supervision and clerking; equipment not used to its best capacity; equipment on standby; the use of additional equipment to minimize the delay and the impact, and an additional fee for our head office overhead and profit.

(2) DETERIORATION TO THE INORGANIC ZINC PRIMER ON THE INTERIOR AND EXTERIOR OF THE STEEL GIRDERS.

On February 5, 1971, the Oregon State Highway Department stopped the application of vinyl finish coat because of alleged primer deficiencies, the events leading up to this are documented in our letter to the Highway Department dated April 1, 1971. Repairs were made to the deficient areas under the day to day instructions received from the field inspector, repairs were commenced after much discussion on April 6, 1971 and continued as conditions and job scheduling permitted until May 12, 1972. Interior surfaces effecting the concrete deck placement and other ancillary work, were completed August 30, 1971.

The cause of the primer deficiencies and documented evidence surrounding the cause has been subject of presentations and discussions between our steel fabricator, Canron Ltd. and has been given the State of Oregon. We understand that the State has agreed, at least in principle, that Canron's claims of deficient paint specifications have been accepted by the State. In addition to the claimed expenses of Canron and our administration mark up thereon, our costs for correcting

continued

The deteriorated paint primer consist of costs incurred by our field painting subcontractor, job schedule delays, impact on other phases of the work particularly rescheduling, under inclement weather conditions, additional labor costs for work performed under new union scale wage agreements, purchase of additional forming material to minimize the impact, continuing on site overhead costs for supervision and clerking, equipment not used to its best capacity, equipment on standby, the use of additional equipment to minimize the delay and the costs from our steel fabricator for investigation of the deterioration and interest on retention moneys withheld from the fabricator pending determination of responsibility and payment and an additional fee for our head office overhead and profit.

To a substantial degree, the costs of items 1 and 2 are inter-related. We understand that the State Highway Inspectors attempted some sort of percentage allocation of costs. These percentages have never been agreed to by us. We believe we can arrive at some equitable adjustment with you to try to do this.

(3) FAILURE OF THE FIELD APPLIED VINYL COAT TO MEET THE AESTHETIC REQUIREMENTS OF THE OREGON STATE HIGHWAY DEPARTMENT.

Our steel fabricator, by letter of August 8, 1969 and as transmitted to various Highway officals on August 11, 1969, expressed concern with the specification for the vinyl coating. Subsequently, vinyl coat painting was commenced on the steel girder interiors and after one day of work, we were stopped as the State Inspector said the work was unacceptable. After field experimentation extending to October 21, 1970, vinyl painting work was completely stopped. On November 23, 1970, we were instructed to modify the vinyl paint application by the use of MEK thinner, subsequently confirmed by letter of December 31, 1970.

Due to weather conditions, only a minor quantity of vinyl top coat was applied. By February 5, 1971, we were stopped from any vinyl application due to inorganic zinc primer deficiences outlined in (2) above.

By April 19, 1971 the primer repairs had advanced far enough to start vinyl top coat painting, and we were instructed by the Highway Department to carry out further experiments with the vinyl materials.

continued

Order for Extra Work No. 13 was issued on April 19, 1971 in the estimated amount of $1,030. This order for extra work is described as:

> "Experiment with various application techniques of the vinyl finish coat to the inorganic zinc primer, methods, materials and techniques to be selected by the engineer."

Various experiments were made April 19 to 22, 1971, May 24 to 26, 1971, July 28, 1971, August 3, 1971. Various meetings and discussions were held between these times to arrive at a consensus on which way to proceed. We were paid the painting subcontractors time, material and equipment to do this work in the amount of $1,669.81.

During this experimental period, interior vinyl coating proceeded following primer repairs with a modified specification using MEK thinner. The original basic paint problem was never resolved during this time and the modified material was used only on the girder interiors. Typical discussions are contained in the Highway Division Minutes and letters of July 13, 1971, June 15, 1971, May 26, 1971 and our letter of May 26, 1971.

Our costs for the failure of the field applied vinyl coat to meet the aesthetic requirements of the Oregon State Highway Department include job schedule delays, impact on the phases following, particularly the interior painting, and additional other costs as previously described under headings 1 and 2.

We are presently compiling our costs for the above work and will present them to you in due course.

Yours very truly,

ANDERSEN-HANNAN

Robert S. Everett

RSE/jdb

RECEIVED
JAN 24 1973
STATE HIGHWAY COMMISSION

I understand tht you are withholding payment of Canron's retainage on the basis of Mr. Edwards' statement that the failure of the zinc primer was the responsibility of Canron. We have made an exhaustive investigation of the problem and now advise you that we are unable to determine the responsibility of the failure at this time.

7214

February 6, 1973

Drake-Willamette, Joint Venture
1740 N. W. Flanders St.
Portland, OR 97209

Gentlemen:

We understand that you are withholding payment of Canron's retainage on the basis of a purported statement by Mr. Edwards that the failure of the zinc primer was the responsibility of Canron. We have made an exhaustive investigation of the problem and now advise you that we are unable to determine at this time the responsibility of failure.

In a letter dated December 19, 1972, to Robert Shotwell from your attorneys, it is implied that claims in connection with the East Fremont Interchange, Units "A", "B", and "C", will be presented. Until these items are presented in detail, it will be impossible to consider any claims.

I would urge you to submit as soon as possible all your claims in connection with your projects.

Very truly yours,

F. B. Klaboe
State Highway Engineer

cc A. E. Johnson
Scott Coulter
Walter J. Hart
R. N. Bothman
L. I. Lindas
V. E. Skoog
Robert Cunningham
AEJ:ms

5

OREGON STATE
HIGHWAY DIVISION

7214

HIGHWAY BUILDING • SALEM, OREGON • 97310

DATE February 1, 1973

TO
G. L. Green, Division Engineer
~~R. E. Simpson, Division Engineer~~
Federal Highway Administration

Federal-aid Project
No. I-405-8(20)303

FROM
ORIGINAL SIGNED BY

L. H. Young
Office Engineer

SUBJECT Request Change Order Approval

Contract 7214 Price Agreement No. 20

Project West Fremont Interchange

Highway Stadium Freeway

County Multnomah

This agreement covers the cost of furnishing and installing gore point protection using impact attenuators as manufactured by Energy Absorption Systems, Inc. The contract specified the use of equipment from a company which went out of business at about the time this project was awarded. To comply with the requirement of the contract the contractor had to purchase the components from another supplier at a much higher price than was included in his bid price. This agreement reimburses the contractor for the additional costs.

Copies of the Engineer's letter of explanation and of the cost justification approved by the Bridge Engineer are attached.

This work was tentatively recommended for approval by the Federal Highway Administration Area Engineer retroactive to January 8, 1971.

Your retroactive approval as of January 8, 1971 is requested.

Attach.

BMW:dgk

55

LEE JOHNSON
Attorney General

JAMES W. DURHAM, JR.
Deputy Attorney General

DEPARTMENT OF JUSTICE
~~100 STATE OFFICE BUILDING~~
SALEM, OREGON 97310
TELEPHONE: (503) 378-6348
408 State Highway Building

Trial Division

JOHN E. MOORE
Chief Trial Counsel
WALLACE CARPENTER
Assistant Chief Trial Counsel

LEONARD I. LINDAS
KEITH R. MALONEY
Assistant Attorneys General and Counsel

JAMES A. BLEVINS
JAMES P. CRONAN, JR.
QUINTIN B. ESTELL
LAWRENCE J. HALL
LESLIE B. HAMPTON
ROBERT A. HOLLAND
DONALD J. HOWE
JOHN R. MCCULLOCH
FRANK C. MCKINNEY
EARL M. PRESTON
R. KEN ROBERTS
JIM G. RUSSELL
JAMES A. SANDERSON
JACK L. SOLLIS
CARLOTTA H. SORENSEN
Assistant Attorneys General

January 26, 1973

RECEIVED
STATE HWY ENGR
JAN 26 '73
REFER TO
FOR
Info Inves R/D D/R Conn Act File

Phillip G. Kaplan
Blumenfeld, Kalishman, Marx & Tureen
Attorneys at Law
130 South Bemiston Avenue
Clayton, Missouri 63105

Re: Fremont Bridge Paint Correction - Klaas Bros.

Dear Mr. Kaplan:

With reference to your letter of January 22, I am informed that the prime contractor for the east approach to the Fremont Bridge has been paid. The prime contractor for the center span has been paid for the painting completed to date, except that this Division is now in the process of negotiating a price agreement involving a change in the vinyl paint being used. The prime contractor for the west approach has been paid, except he has not signed a price agreement pertaining to a change in the vinyl paint.

The foregoing information comes from Walter Hart, Bridge Engineer for the Division.

Very truly yours,

NOTED
F. B. KLABOE

LEE JOHNSON
Attorney General

L. I. Lindas

L. I. Lindas
Assistant Attorney General
and Counsel to Highway Division

LIL:hg

cc - F. B. Klaboe
A. E. Johnson
Walter Hart

FORM E-30

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

7214

Salem, Oregon

RECEIVED
STATE HWY ENGR
JAN 26 '73
REFER TO
FOR

Info	Inves	R/D	D/R	Sign	Act	File

DATE January 25, 1973

TO Mr. Walter J. Hart
Bridge Engineer

FROM Leonard I. Lindas
Chief Counsel

SUBJECT West Fremont Interchange
Stadium Freeway
Contract 7214
Pile Driving Claim

I have discussed with R. W. Ellison the pile driving claim submitted by Anderson-Hannan, contractor on this project. The contract indicated that the piling could be expected to penetrate to within certain limits and from this an average penetration was evident. Actually, a great many of the piles penetrated beyond this average and the contractor claims compensation for the additional driving involved.

In addition, the contractor claims compensation for splicing piles to produce lengths beyond the average penetration. This compensation includes bid price plus the additional costs incurred by splicing in place. There is a difference between splicing in a bed prior to driving and splicing in place after driving has commenced. The contractor claims this difference plus his bid price which is for splicing in a bed.

The entire claim is relative to driving piling beyond the average of the specified limitations. It is my opinion that the claim is valid and should be honored.

RWE:dh

cc F. B. Klaboe
A. E. Johnson
H. S. Coulter
John Howard

NOTE
F. B. KLA

5

FORM E-90 7214

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon

RECEIVED
STATE HWY ENGR
JAN 23 '73
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

DATE January 22, 1973

TO Mr. V. E. Skoog
Controller

FROM Walter J. Hart
Bridge Engineer

SUBJECT Consultant Agreements
Howard, Needles, Tammen & Bergendoff
East and West Fremont Interchanges
Contracts 7310, 7311, 7312, and 7214

NOTED
A. E. JOHNSON

Attention Mr. Paul L. Hatcher

The original agrement with the subject consultant to do the design work for the Fremont approaches was dated March 14, 1967. Since that time there have been three supplemental agreements for additional or revised work.

Please reduce the retainage on all of the above agreements from the five percent currently withheld to three percent in accordance with the provisions of part IV - PAYMENT, paragraph 2 Partial Payments.

RJW:dh

cc A. E. Johnson
E. S. Hunter

Gen. Files

RECEIVED
STATE HWY ENGR
JAN 22 '73
REFER TO
FOR

Info	Inves	R/D	D/R	Sign	Act	File

OREGON STATE
HIGHWAY DIVISION

7-14

January 19, 1973

NOTED
A. E. JOHNSON

Mr. Donald J. Howe
Assistant Attorney General
Department of Justice
Salem, Oregon 97310

Re: Fremont Bridge Painting

Dear Mr. Howe:

Attached is a summary of climatic and air contamination readings for the period September 1970 through May 1971 at Portland, Oregon, Vancouver, B.C., and Richmond, California. These summaries were compiled from governmental records for the individual locations.

Vancouver, B.C. and Portland experienced similar climatic conditions during the period Vancouver had less total precipitation during the period, but had a slightly higher average relative humidity. Vancouver's average temperature was also less than Portland's. The higher humidity and the lower average temperature would both be detrimental to the paint system used on the Fremont approaches.

The average air pollution as measured by SO_2 readings for Portland and Vancouver was very close to being the same.

A comparison of Portland and Richmond, California, where the Fremont main span was fabricated and painted, shows that the average temperature in Portland was lower and the total rainfall was much higher than Richmond. The air pollution in Richmond was considerably less than Portland. All of these factors would tend toward a better environment for paint application in Richmond than in Portland.

From the data summaries, I would conclude that any claim that the poor environment in Portland caused the failure of inorganic zinc primer in Vancouver would be invalid. The environment in Portland is no worse than Vancouver, in fact, is some better. Also, if the poor environment in Portland would cause the total failure of the inorganic zinc, on the work done in Vancouver, why then did it not cause the total failure of the inorganic zinc primer on the work done in Richmond?

I hope this has been helpful to you. If there is any additional information you need, please contact us.

Yours truly,

GEORGE M. BALDWIN
Administrator of Highways

By

J. E. CHIDSEY
Structural Quality Control Engineer

Attachment

JEC:sb

cc: A. E. Johnson
Walt Hart
Leonard Lindas

[illegible]

OREGON STATE
HIGHWAY DIVISION

TABULATION SHEET
SHEET .... OF .... SHEETS

	Portland City Averages				Richmond Averages			Vancouver B.C.			
	Temp	R.H	Precip	Depart from Norm	Temp	Precip	Depart from Norm Prec	Temp	R.H	Precip	Depart from Norm Prec
Sept 70	61.7°	61%	1.83"	+0.09"	66.3°	–	–	54.7°		2.98"	+0.85
Oct	55.2°	70%	3.04"	-0.85"	60.4°	1.00"	–	47.4°		2.58"	-2.04
Nov	48.5°	75%	7.60"	+1.56	58.1°	7.01"		41.3°		3.46"	-1.98"
Dec	41.5°	84%	10.24"	+2.82"	49.5°	6.29"		37.2°		6.61"	+0.17
Jan 71	41.9°	85%	9.18"	+2.84"	50.6°	2.19"		35.8°	86%	8.28"	+2.76"
Feb	44.3°	79%	5.35"	+0.45"	52.9°	0.23"		39.3°	82%	5.59"	+0.85"
Mar	45.4°	72%	5.96"	+1.18"	54.0°	2.26"		39.9°	74%	6.29"	+2.53
Apr	52.0°	67%	3.35"	+0.90"	55.8°	0.88"		46.7°	70%	1.99"	-0.31
May	58.4°	65%	1.14"	-0.91	57.8°	0.08"		53.2°	73%	1.67"	-0.25
				Dev from Norm					Ave of 5		
Ave	49.9°	73%	5.30	8.08"	56.2°	2.22"		43.9°	77%	4.38"	+2.58"
Total			47.69"			19.94				39.45	

Form E-40

OREGON STATE HIGHWAY
DIVISION

TABULATION SHEET

SHEET .... OF .... SHEETS

24 hr Monthly SO_2 Ave from Sept 70 - May 71

	Min	Max	Portland Ave		Min	Max	Richmond Ave		Min	Max	Vancouver Ave
70 Sep	0.001	0.017	0.005			0.024	0.009				0.020
Oct	0.001	0.052	0.016			0.024	0.007				0.015
Nov	0.001	0.055	0.023			0.020	0.009				0.020
Dec	0.006	0.073	0.027			0.016	0.006				0.015
71 Jan	0.008	0.086	0.032			0.045	0.014				0.019
Feb	0.002	0.052	0.019			0.033	0.011				0.022
Mar	0.001	0.045	0.016			0.019	0.004				0.022
Apr	0.001	0.028	0.015			0.009	0.002				0.022
May	0.001	0.032	0.007			0.002	0.006				0.014
Ave.			0.018				0.008				0.019

SP*82886-734

7217.

FORM E-1 (REV. 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: West Fremont Interchange

WEEK ENDING: December 30, 1972

SECTION PREFIX: 626-1011

HIGHWAY: Stadium Fwy

COUNTY: Mult

NAME OF JOB: West Fremont Interchange

KIND OF WORK: Grading, paving, structure, illumination, signing

CONTRACTOR: Anderson-Hansen

CONTRACT NUMBER: 7214

FEDERAL AID PROJECT NUMBER: I-405-2(20)303

DATE OF CONTRACT: April 29, 1972

DATE WORK STARTED: June 4, 1969

ESTIMATED COMPLETION DATE: October 31, 1972

AVERAGE FORCE ON PROJECT FOR THE WEEK:

MEN: SUPERVISION:

SPECIFIED WORK DAYS:

WORK DAYS USED:

SPECIFIED CALENDAR DAYS 550,897,1017

CALENDAR DAYS USED 550,897,1017

SPECIFIED COMPLETION DATE:

PERCENT OF TIME ELAPSED: 100% 99% 100%

PROJECT AUTHORIZATION: $20,868,472.90

PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST:

EXCLUSIVE OF ENGINEERING: $19,825,049.25

ENGINEERING AUTHORIZATION: $1,043,423.65

PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION:

ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $19,246,248.96

ENGINEERING COST TO DATE: $958,500.00

DATE PROJECT WAS COMPLETED: October 31, 1972

ESTIMATED PERCENT: [redacted] UNDERRUN 3 %

PERCENT OF AUTHORIZATION 92 %

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)					
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE					
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.	9268							
PERCENT	100%							

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY 24	Cold, wet			
MONDAY 25	Cold, wet			
TUESDAY 26	Rain			
WEDNESDAY 27	Showers			
THURSDAY 28	Cloudy			
FRIDAY 29	Cloudy			
SATURDAY 30	Cloudy			

RECEIVED
JAN 2 1973
CONSTRUCTION SECTION

K
Johnsen g
Pease E
Glenn
Litchfield
Berg

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY 24	No activity
MONDAY 25	Christmas Day- No activity
TUESDAY 26	Installing glare shields on sign illumination equipment
WEDNESDAY 27	Installing glare shields on sign illumination equipment, replacing two roadway luminaire bulbs All work complete as of this date- no further diary entries
THURSDAY	
FRIDAY	
SATURDAY	

REMARKS

FINAL WEEKLY REPORT

All work complete

SIGNED Carl F White LOCATION PORTLAND, OREGON

FOR John D. Howard, Resident Bridge Engineer

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

SP1F216

RECEIVED

FOR FILE

7214

5.

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon

DATE December 14, 1972

TO H. S. Coulter
Metropolitan Engineer

ORIGINAL SIGNED
FROM R. W. Ellison
Bridge Administration Engineer

SUBJECT West Fremont Interchange
Stadium Freeway
Contract 7214
Pile Driving Claim

NOTED
A. E. JOHNSON

Your analysis of the contractor's pile driving claim for the subject project has been reviewed by this office.

We are in accord with the recommendation for a settlement in the amount of $109,000.

Please submit a signed price agreement for this amount. The price agreement should indicate that this is full compensation for all claims relative to pile driving.

RWE/ag

cc A. E. Johnson
John Howard
R. J. Wright

RECEIVED
DEC 15 1972
OFFICE OF
A. E. JOHNSON
ASSISTANT STATE HIGHWAY ENGINEER

RECEIVED
DEC 13 1972
FOR FILING
7214

cc - Walt Hart
Br. Dept
12-12-72

Copy to Jenkins
11-22-72
with excerpts from
Saroyan's Report

12-13-72

NOTED
A. E. JOHNSON

FREMONT PAINTING

Comments On The 10-5-72 Letter From Saroyan

1 - Yes - This will also help avoid bubbles (air pockets).

2 - We cannot use Red Lead after January 1, 1973 (Environmental Problems).

3 - We have had some adhesion problems, but not in sheets.

4 - Note page 2, all commercial test panels would be a failure as far as field use is concerned, and we know that we have to have a suitable anchor pattern for adhesion (the paper by Mr. Saroyan is duly noted).

5 - We would normally follow all points but No. 5. The other 4 points are normal paint practice with this type paint, If No. 4 is the manufacturers recommendation.

6 - Yes - This is the way we painted the last trusses at Fentron, as painting a car with laquer, fine spray thin coats made a smooth job with very little over spray (what we had could be easily removed).

7 - One-half to 1 mil per year under direct and continuous water exposure! (How much is considered direct exposure?)

8 - This information is in any book on inorganic paint but does not answer the question. This is only what can happen. No. 7 more closely answers the question if we remember that some of the materials were probably never, or seldom, in contact with much moisture (surely not enough to wash away the zinc sulphate salts which may have formed and if left would tend to afford some protection or retarding of further deterioration.

RECEIVED
DEC 13 1972
OFFICE OF
A. E. JOHNSON
ASSISTANT STATE HIGHWAY ENGINEER

MORE

9 - Note 5 and 6. If we can apply no more than 1 mil dry for good adhesion, then why 2-3 mils here? Is 80 K.U. thin enough to apply 1 mil?

10 - Note 7. One-half to 1 mil per year if exposure to moisture is continuous. Some steel was protected most of the time. Even under the worst conditions listed, if we had the required 3 mils minimum, it would take from 3 to 6 years for rust to break out. This is if the paint was applied properly and the second reaction, B, was allowed to happen (3 mils minimum paint film over the peaks of the profile).

11.- A scientific statement - some of the "lucky" areas are on the same piece and under the same conditions as the "unlucky" area next to it. I think the "lucky" areas were the ones that had an honest coat of primer applied over a good clean anchor pattern.

12 - Question: Would the residues from the curing agent be gone by the time 2-1/2 to 3 mils of primer deteriorates? We had freckling through, or in, the film with no visible disturbance of the applied paint film or curing agent residue.

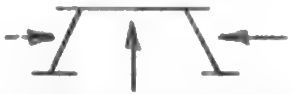
13 - I don't see where this has any bearing on the question. This deals with unpainted steel with remnents of sand in the valleys of the deeper profile which could attract moisture, etc. We are dealing here with a paint film which supposedly covers the profile completely. Undoubtedly, most of our steel had shattered grit or shot materials left in the valleys at the time of painting.

MORE

14 - Was this the case? Agitated?

15 - "Sacrificial" or "cathodic" protection may be cause for some loss of zinc as we had large areas of rust stains. Also, if the paint film had residues or areas where the metal abrasives got into the wet film, there would be some loss.

16 - In the Portland area, at a 50° to 70° temperature range, we have probably averaged 2-1/2 mil dry thickness per coat with carbozinc 11. This is not with artificially controlled conditions.

17 - I don't think the conditions were controlled as stated! If the beams were painted as  then with one coat, 1 and 2 mils dry would be the correct amount of film thickness to expect. One mil painting up and inside, and two outside, with a more porous coat inside.

18 - This was not the case. It was more like paint distribution failure which would include porosity in the paint film from improper application.

19 - A large percent of the paint was not subjected to water attack except as humidity, so there was a minimum washing action. The residues of the curing agent were still on the film which indicates that the beams had not been subjected to a washing action during shipment or storage. The measurements taken by Ed Rief and Bill Bangert at intervals of several months using the Banana, Tooke, and Elcometer Gauges indicated no recordable loss of film thickness.

MORE

20 - See 12 and 13.

21 - It is our opinion that the major factor was in application, not atmosphere; but our inspection agency at Conran's plant accepted the paint.

22 - The problem would not have been eliminated by a seal or top coat, only delayed or hidden, as we would still have less protection than we were paying for.

Ed J. Rief
Dist. Insp. Engr.

EJR:ljp

B. Question

Generally, comment on the advisability of:

1. Putting vinyl directly over zinc.

Answer

Before applying vinyl over the inorganic zinc coating, the surface must be free of any white deposits resulting particularly from post cure agents. The white deposits should be removed by high pressure fresh water rinse. Mechanical scrubbing should also be used if necessary. ①

For inorganic zinc coatings that have been approved under MIL-P-23236 or under Naval Ships Technical Manual, Chapter 9190, and properly washed of the white deposits, a thin coat, maximum 1 mil dry film, of red lead vinyl, Formula #119 (MIL - P - 15929) is applied as a tie coat. ②

Although the above practice has resulted in some satisfactory applications, where #119 has served as a tie coat, promoting good adhesion between the inorganic zinc primer and the topcoat or finish coat of vinyl, there have been some classical failures. Vast sheets of vinyl have peeled off the inorganic zinc primer. ③

An analysis of the conditions that promote good adhesion and those that induce and cause poor adhesion and peeling, when #119 is used as the tie coat, have been studied microscopically. The attached three color slides (photomicrographs) show the surface contour or profile of cured inorganic zinc coatings. The surface of Rust-Ban 191 as shown in the slide, is only slightly rough. The slide for Rust-Ban 190 shows a rather smooth surface. In contrast, the profile for the experimental B-3 inorganic zinc coating is very rough and porous. ④

Loss of adhesion of topcoats using vinyl #119 as a tie coat can be explained by identifying the surface profile of the inorganic zinc. If the surface is relatively smooth, adhesion must be derived from chemical bonding. Hence, with a tie coat such as #119, there is insufficient chemical adhesion. If the #119 is applied too thick, there develops a coating with high cohesive strength and in incidents of stress (thermal shock, etc.) is prone to exhibit poor adhesive strength. Also, if the #119 is applied thin, perhaps necessitating the addition of extra solvent, penetration of the #119 into the porous inorganic zinc can occur. Here, besides being functional as a tie-coat, the thinned #119 can serve as a seal coat. Incomplete contrast, when the inorganic zinc profile is rough, the surface per unit area is increased considerably and mechanical adhesion is promoted. This is a direct corollary to improving adhesion by abrasive blasting a surface.

The following experiments were conducted in regards to surface profile of inorganic zinc coatings top coated with vinyl #119 and immersed in brackish water for 3 months*:

---

*"Inorganic Zinc Coatings in the U. S. Navy" by John R. Saroyan, presented at the National Association of Corrosion Engineers, Western Region Conference, Phoenix, Arizona, 28 October 1964.

B. Question

Generally, comment on the advisability of:

2. Using 5 mils of hi-build vinyl in one coat (viscosity over 125 KU) ⑥

Answer

The disguise of a single thick coat versus multiple coats as being more economical has been the theme of recent "sales pitches" as a cost-reduction devise through labor savings. This is still controversial matter now and in some governmental circles (Navy) such a criterion cannot be used when bidding on paints. Only what is in the container and not the way it is applied or any other alleged cost savings can be reflected in the bid price.

As discussed in the previous question, B-1, to obtain good adhesion of vinyl over inorganic zinc, a thin coat, a mil or less dry film, must be applied.

From attachment #8, under multiple coats, the following additional criteria are discussed:

1. Multiple coats, of varying colors, should be used to obtain complete, uniform coverage.
2. For coatings that contain solvent, multiple thin coats rather than fewer thicker coats permit the maximum release of solvent.

Summary

Generally, using 5 mils of hi-build vinyl in one coat on inorganic zinc is not advised. Loss of adhesion can result. Also, there can be uneven varying applications with runs and sags or orange peel roughness. Y

6.5 to 10.0 pH

Less than 0.4 neutralization number

Less than 300 PPM hydrogen sulfide content. (Hydrogen sulfide, like SO_2, will also react with zinc.)

Summary

It is apparent, from the above information, that a content of SO_2 in the atmosphere can quickly dissolve zinc in the inorganic zinc coating. The sulfurous acid, oxidized to sulfuric, reacts to form zinc sulfate. With condensations of moisture and rains, the very soluble zinc sulfate salts wash away, exposing new layers of inorganic zinc coating for SO_2 attack. Since the coating (inorganic zinc) is 85% by weight zinc, the film is also destroyed as the SO_2 "eats" away at the zinc. Also the SO_2 can react with lithium silicate or any of the lithium compounds, again forming soluble sulfates. ⑧

D. Question

Your comments on an acceptable system. Is the following system sufficient?

Primer - Inorganic zinc - ethyl silicate (3 mils)
Stripe coat - Organic zinc (epoxy)

Vinyl wash primer (#117)
Vinyl Hi-build 80ku (3 mils) first coat
Vinyl Hi-build 80ku (3 mils) second coat

Answer

The above coating system appears to be somewhat complicated in respect to the so-called "stripe-coat" followed by the wash primer, #117.

A complete system which is quite classical is the following:

1 - Primer - inorganic zinc, ethyl silicate
2 - Vinyl wash primer, #117
3 - Vinyl hi-build first coat
4 - Vinyl hi-build second coat

Returning to the "stripe coat", organic zinc epoxy, there seems to be a redundancy. It is known to the art that zinc rich primers may be of the inorganic binder type or organic binder type and mixtures (some organic binder in the inorganic) these latter hybrids can contain polyvinylbutyral, for example, in with the ethyl silicate binder, using alcohol as the common solvent.

It doesn't appear necessary to apply an organic zinc epoxy over an inorganic zinc (ethyl silicate). Obviously, "anything can be done," but the logic of the coating system proposed is not self-evident. It would be more conventional to use instead a "normal" epoxy coating over the zinc-ethyl silicate.

Summary

The following coating systems are derived from the 5-coat system reviewed and proposed above; these systems are recommended instead:

⑨

		Dry Film
(A)	Inorganic zinc-ethyl silicate	3 mils
	Vinyl wash primer #117	0.5 - 0.75 mils
	Vinyl Hi-build 80 ku	2 - 3 mils
	Vinyl Hi-build 80 ku	2 - 3 mils
(B)	Inorganic zinc-ethyl silicate	3 mils
	Epoxy primer - thinned, Mil-P-23236 or Navy 9190. Limited cure time so as to receive vinyl hi-build	1 mil (Max)
	Vinyl Hi-build 80 ku	2 - 3 mils
	Vinyl Hi-build 80 ku	2 - 3 mils

E. Question

Is Portland, Oregon's winter atmosphere deleterious to a water based inorganic zinc primer without a seal coat?

Answer

As previously reviewed under Question A-6 and A-9, for Rust-ban 191 (and 193) to cure the lithium silicate binder must be insolublized. In the atmosphere, with some humidity, the following reaction takes place:

a. $$\underset{\substack{\text{Lithium}\\\text{Silicate}}}{Li_2SiO_3} + \underset{\text{Water}}{2H_2O} = \underset{\substack{\text{Lithium}\\\text{Hydroxide}}}{2LiOH} + \underset{\text{Silicic acid}}{H_2SiO_3}$$

Then for curing to take place, the silicic acid has to dehydrate as indicated below:

b. $$H_2SiO_3 \xrightarrow{\text{Dehydration}} H_2O + \underset{\substack{\text{Silicon Dioxide}\\\text{or}\\\text{Silicic Acid}\\\text{Anhydride}}}{SiO_2}$$

This over-simplification is not intended to detail the other complicated reactions that take place to form the complex iron-zinc silicate.

If the second reaction (b) or others which form the insoluble complex silicates, is not possible, then water soluble ingredients such as lithium silicate, lithium hydroxide, etc. can easily be washed away by rain or other condensation.

Besides the moisture which can be deleterious to such inorganic water base zinc coatings, there is the aggressive sulfur dioxide content of the winter atmosphere. The following SO_2 content was recorded in Portland, Oregon during Jan.-Mar. 1971:

	SO_2
January 1971	78.6 $\mu g/m^3$
February 1971	60 $\mu g/m^3$
March 1971	48.6 $\mu g/m^3$

As discussed in Question "C" above, these amounts of SO_2 along with moisture can be very deleterious to the inorganic zinc coating.

Summary

With the winter environment at Portland, Oregon identified as to high moisture, rain and SO_2 content, any inorganic water based zinc primer without a seal (sealer) or top coat will show definite increase in rate of diminishing of the coating film thickness, with rust finally breaking out in the damaged or deteriorated areas.

Also, it has to be postulated that the reason a certain member or area looks good, is because it was "lucky" since the aggressive environment didn't get to it yet.

⑪

G. Question

If your answer to "F." is yes, what evidence should there have been on the girders to indicate a residue.

(12)

Answer

The soluble sulfates normally would not form dense or ample white deposits like those formed when curing agents are applied over the Rust-ban inorganic zinc primer. Any surface sulfate would probably be washed away by rain or/other condensations. Probably, fresh water washes and recovery of several of such washes would permit chemical identity of the presence of sulfate.

H. Question

Would use of small test panels be indicative of reaction of paint on large panels?

Answer

In my studies relating to surface profiles of abrasive blasted surfaces and corrosion, the following observations have been made:

A small test panel 4" x 6" x 1/8", was divided into four equal areas and sandblasted with different sieve size abrasives such that four profiles were obtained. Also these studies included the occlusion of shattered sand within the valleys and the effect of this on corrosion.

(13)

The prepared panel was layed flat on a laboratory work bench and subjected just to the laboratory environment. In about two days, corrosion was observed on the panel. The sequence of corrosion and amount was directly proportional to the roughness of the surface, thus exposing more surface per unit area, and the amount of occluded sand particles in the depressions.

It is thus demonstrated, that even on the same panel, the environment can act differently on the various areas. It follows, two panels of identical size with some surface differences will perform differently when subjected to an exposure or environment.

A classical example of my experience is the varying performances of two identical 10" x 12" x 1/8" mild steel panels, spray painted identically, with the same continuing spray passes, and immersed in sea water side by side performed differently.

Now going to two size panels, the variations can be further amplified. A test panel (small) versus a steel girder obviously would present a case of two distinctly different surfaces.

In the first instance, the mass of the two surfaces is vastly different. This means the heat capacity of the two would vary greatly. The panel would heat up and cool off rapidly. The steel girder would heat and cool slowly. A pool of water, for example, would evaporate at different rates from the panel and girder. This would result from the varying heat contents and the varying air currents around the two surfaces.

Because of varying heat contents, varying rates of heating and cooling, and varying masses, rates of expansion and contraction would be different of the two surfaces. Coatings on these surfaces would experience different stresses under the various environmental actions.

Summary

Small test panels can at best be compared to each other and more exactly to each other if they are the same size. Such panel tests are good for screening purposes. The performances of massive girders and small panels normally would not be compared directly.

I. Question

What effect would result from increasing the zinc content to 85%.

Answer

The specification, for the Fremont Bridge, covering the properties of the mixed inorganic zinc silicate primer "already" requires a minimum zinc pigment content of not less than eighty-five (85%) percent, by weight of the total non-volatile content.

Under Question A, previously answered, the question on insufficient pot agitation may be responsive to this question. The resulting applied inorganic zinc coating would be quite variable. The zinc content, because of poor agitation and settling of the zinc pigment, would vary. The first sprayed material would be "richer" - more than 85% - in zinc and the subsequent applied coating would contain less zinc. The properties would vary accordingly. The coating with excessive zinc would be dry, porous and irregular - the low zinc would show up as a glossy, flooded, poorly adhering or even layering type of deficiency.

The zinc ions (ZN^{++}) then form the various zinc salts and products: sulfates, phosphates, carbonates, etc. With rain and other condensations, the salts can dissolve (if soluble in water) and wash away or be washed by mechanical wearing action of the rain. In this way, new zinc is exposed for a repeat of the above sacrificial reactions. The free iron formed from the net reaction of (B) can rust by the atmosphere and start anew the whole deterioration process of zinc (and the lithium silicate end products). ⑬

1. Question

The longitudinal girders on unit WS-1 of the East Fremont showed very thin primer when checked less than 90 days after painting. Please explain, after considering the following factors:

Answer

According to available information during the application of Rust-ban 193 and 195 cure solution, the temperature in the Canron plant was stated as being held between 70-80°F with a relative humidity of 30-50%. The film thicknesses were checked by wet film measurements, (I assume dry film measurements at those measured areas was also checked) and were determined to be at least 3 mils. This then appears to eliminate a point of consideration which is contained in Attachment #14.

On page 2, 3rd paragraph, the following is stated: (Following this from above paragraph: "it (#193) can easily be applied by spray at temperatures ranging from 40°F to 140°F.)

"At the upper temperature levels, Rust-ban 193 can be applied to a dry film thickness of 3-5 mils in one coat. At lower temperature levels, it may become necessary to apply two coats of Rust-ban 193 in order to obtain 4 dry mils..."

Apparently, from time above, at low temperatures only a maximum of 2 dry mils of 193 can be obtained per coat. This was not the situation at the Canron plant where it has been stated the temperature was held at 70-80°F. ⑯

The coating thicknesses taken 90 days after the application of Rust-ban 193 (+195 cure solution) showed 1 mil average on the interior surfaces of the box beams and 2 mils for exterior surfaces. This cannot be explained on the basis of deficiency in the application process since all factors were controlled, inspected and certified. There remains only the uncontrolable environmental factors at the Fremont Bridge site. ⑰

The 4' diameter areas of pinhole rusting would be the normal rusting pattern. Penetration and deterioration would follow a droplet distribution coinciding with moisture droplet distribution on a surface (horizontal). Vertical surfaces would display flow pattern with gravity plus droplet corrosion pattern. All rusting that appears would coincide with water droplet distribution and porosity in the Rust-ban inorganic zinc coating. ⑱

The girders were shipped Jan-Feb. 1971 and film thicknesses taken in March 1971. A review of the environmental factors during this period show the following:

Period	Sulfur Dioxide µg/m^3	Water Equivalent
Jan 1971	78.6	7.09
Feb 1971	60.0	3.36
Mar 1971	48.6	4.87

The girders were subjected immediately to high SO_2 and water impact. With no time to build-up some of the normal protective salts, such as normal carbonates, to seal some of the pores, accelerated atmospheric SO_2 and water attack too place. Such attack could greatly dimish film thickness, as observed. ⑲

N. Question

According to surveys by the resident engineer on the Fremont Superstructure, the primer there is not deteriorating at a rate faster than we would expect. This steel was painted in San Francisco with Mobil Zinc 1, self-cured, and has been stored in Portland since the fall of 1970 with a loss of approximately 1/2 mil. The resident engineer feels that the rusty areas you have observed were never properly coated. Could you give us some insight as far as this is concerned?

Answer

In the application of any protective coating, there is always the possibility of improper coating. However, I cannot accept, without some facts to back it up, that the rusty areas of the Mobil Zinc #1 were due merely to improper application. As we have discussed, there are aggressive environmental factors at work at the Portland Fremont Bridge area. I place more importance on the sequence of environmental events that the superstructure steel was subjected to (I have to assume this steel was checked for conformance - proper application and proper film thickness - why shouldn't it have been checked?)

The San Francisco area probably had less aggressive atmospheric factors than the Portland area. Again, because of the success of the self-cure action of Mobil Zinc #1, the environment was conducive to the self-cure and was so accepted. Had this not been the case, some means of inducing cure may have been provided.

It may be repetitious to say, once the inorganic zinc coating has cured and has demonstrated ability to self-cure under those conditions, it probably has more resistance to aggressive environmental action. It must also be considered that aggressive attack is not uniform over this girder surface.

Q. Question

Your opinion of the cause of the loss of the inorganic zinc primer.

Answer

All of the items discussed in Question A through P certainly have bearing on the problem of the loss of inorganic zinc film thickness (and corrosion appearing) at the Fremont Bridge site. Obviously if the coating materials are not properly mixed, properly applied, properly cured, its performance will diminish. Because of guidance and inspection points set up in coating these steel parts, I don't think the major factor of the failure lies in the above ㉑ type of deficiency or error. I believe there is a fundamental cause for the failure and that is the aggressive atmosphere at the bridge site. These aggressive factors were listed as moisture - rain and other condensations - and SO_2. Nothing in Questions B through P has been pointed to the cement plants which put out very alkaline dust particles. These too can be aggressive to the inorganic zinc coating.

Summary

The entire problem of the failure would have definitely been eliminated if ㉒ the Rust-ban inorganic zinc had some sort of organic barrier or topcoat, (sealer, tie or whatever) applied over it prior to being subjected to the Fremont Bridge site.

# #

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FILES

7214

NOTED
A. E. JOHNSON

Box 300
Salem OR 97308

December 11, 1972

10-35.6

Original Signed by
H. A. Schell
Division Bridge Engr.

H. A. Schell, Division Bridge Engineer
Salem, Oregon

RECEIVED
DEC 14 1972
OFFICE OF
A. E. JOHNSON
ASSISTANT STATE HIGHWAY ENGINEER

Oregon Projects I-405-8(20)301
I-405-8(22)304
East and West Fremont Interchanges
Painting Claims

On December 11, 1972, a meeting was held in A. E. Johnson's office to discuss the impending claim for zinc painting on the interchange structures. Those attending the meeting were: A. E. Johnson, Ed Hardt, L. I. Lindas, Chuck Lobaugh, Bob Shotwell, John Howard, and the writer. The meeting was basically to indicate the position of the State and if they should go to court in a claim between Canron (fabricators) and the contractors (Anderson-Hannen & Drake-Willamette).

The State's Legal Counsel, Mr. Lindas, said that the case is not very clear and that there are gray areas implicating the State in part of this claim. Basically these areas have to do with the inspection of the painting process in Vancouver, B. C. by Pittsburgh Testing Laboratories (much controversial steel was accepted for shipment before State inspectors in Portland objected to obvious deficiencies).

Mr. Lindas asked if we would approve a settlement with the contractor for payment to Canron. The two contractors are holding approximately $2 million in payment to the fabricator and it appears Canron must go to court in order to get this money. The supportable maximum basis for settlement according to State figures is as follows:

Project	State	Contractor
West Fremont	$90,000	$130,000
East Fremont	167,000	230,000

It appears that the settlement would be considerably below the quoted figures. I indicated that our file documentation does not adequately support such a settlement unless new information is presented. I was given a copy titled "The Analysis of Primer Rust Problem, Canron Ltd." which was prepared by the fabricator Canron to support their claim. I indicated to the State that I will review this report and discuss the problem with my superiors and advise the State as to our position.

cst cc: OSHD (A E Johnson)

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FORM E-30 (REV. 10-69)

7214

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
November 13, 1972

SUBJECT: East and West Fremont
Approaches
Canron's

To: Mr. A. E. Johnson
Asst. Highway Engineer
Highway Office Building

NOTED
A. E. JOHNSON

Attached are my comments of Canron's "Book" of January 1972 which presents their views on the poor inorganic zinc primer job we received on the East and West Fremont approaches. I believe my comments are self-explanatory but if you should need any clarification or further information, please call me.

JOHN C. JENKINS
Engineer of Materials & Research

By
J. E. CHIDSEY
Structural Quality Control Engineer

Attachment

JEC:eb

cc: Walt Hart

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A. E. JOHNSON
ASSISTANT STATE HIGHWAY ENGINEER

SP*32475-734

P. 12 - Last Paragraph

There were 11 different primers which met the requirements of (1), (2), (3), (4), (5), (6), (7) by virtue of the fact they were listed on the Q PC 23236 List. Since all of these products had undergone extensive testing including some 18+ months exposure tests, I feel that they could all qualify under (8).

(9) I know of six of the 11 which make the vinyl finish. The other five I'm not certain, but feel that they could furnish a high build vinyl compatable to their I.O. Zn.

(10) All manufacturers can furnish a technical rep. of the quality that we saw from ENJAY.

(11) The materials tests were not difficult to pass.

Mobil Zinc 1 is used on Fremont which has the same specs. Amercote products were qualified. Amercotes representative went over the Specs before the contract was let - If there had been an area they could not meet, he would have screamed loud and long. I had conversation with Lewis Hayes of Prufcoat, Grow Chemical, who said that he submitted a bid for the material.

P. 16 - (h)

The modification of the profile was done to accommodate Canron's blasting procedures. They were having difficulty getting both profile and cleanliness. Fought in Tigard met the spec w/o problem. Murphy-Pacific meet the same spec w/o problem.

P. 18 - Top Paragraph

The change to RB193 was due primarily to the fact that Canron was having difficulty obtaining both ancho-profile and cleanliness required. To get the cleanliness the profile was too low. Because of this, ENJAY suggested the use of RB193 which required a lesser profile.

P. 25 - 3.4.14

The primer can be thinned, using the vehicle supplied as the liquid component.

P. 26-27 - 3.5.1.2

While I was never in the paint shop in Vancouver it is my understanding that this bay was not heated and the environment controlled as stated.

P. 42 - Top of Page

Emphasis added is w/o merit.
We realize that zinc is a sacraficial coating. It is in fact a cathodic coating, but as long as the film is unbroken, the amount of sacraficial action is minimal.

P. 44

Canron makes no claims as to having experience in the application of Inorganic Zinc Primers. If this is the case, which I understand is true, they would have to be given quite detailed reccomendations and procedures. In all of the correspondence and discussion I saw and heard from Canron, I never did hear any reference made to their past experience with this type of product. Detailed instructions and procedures were given as much for the benefit of the fabricator as for the State. If these instructions and procedures were unreasonable, why was no objection made to them before the contract was let? Prior to the contract award, everyone seemed to feel they were a good set of specs.

P. 54 - Last Sentence

They state an emphasis on continuing sacrificial action of zinc-rich primers, but offer no figures as to what this rate is. Harlan feels that the 1/2 mil loss in the 1st six months is due to curing action and not sacraficial action. Using their reasoning, even galvanized surfaces of 203/ft.^{2} would be gone in less then 7 1/2 years. Total.

P. 56

Comment that the members were stored next to a cement plant. The only cement plant is in Lake Oswego. There is a Permanente Storage area on the East side of the river, but the members were not stored near it.

Comment is made that "the State did not obtain from the manufacturer any document instances of use of its products under conditions comparable to those existing on this project." Portland's weather and atmospheric conditions are quite unique, so comparable conditions would be difficult to find. The San Francisco Bay Area is somewhat similar and RB191 was used on the San Mateo-Howard Bridge across the South end of the bay. The Bay Area has a higher air polution problem than does the Portland area.

P. 57

CAN TEST is doing some unwarranted extrapolation of data. They are taking a 1/2 mil loss in the first four months and extrapolating it to read 1.2 units loss in one year. This is not feasible.

P. 64 Wet gages are not reliable in that they measure the thickness of the liquid applied. If the Zinc settled out, there would be insufficient dry film.

P. 67 - Middle Paragraph

No documentation of this fact was made until after the paint problem was brought out into the open.

From comments made, CANRON does much to attempt to relieve PTL from any charge that the inspection was poor. After the problem was discovered, the remaining steel was shipped to the jobsite and to the best of my knowledge, there were no problems with rusty, primed steel.

Not having at this time, a copy of the Navy report cited, I can make no comment on this phase of the report.

I still ask the same question: If the insides of the girders had 3+ mils of IO Zinc applied and this material was eroded or sacraficed as CANRON claims, what became of the products of this erosion and sacraficial action? With the toss of from 1 1/2 to 3 mils of primer over the large surface involved, there would be a large amount of residue in the bottoms of the girders. None of this residue has ever been apparent to me or anyone else who has examined these girders.

Also, the rusting problem was by far more prevalent on the inside than the outside of the girders. I would like an explanation of this phenomenon.

5

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7314

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon

DATE November 10, 1972

TO Mr. Edward L. Hardt
I-505 Project Engineer

FROM Walter J. Hart
Bridge Engineer

ORIGINAL SIGNED
WALTER J. HART

NOTED
A. E. JOHNSON

SUBJECT Paint Primer Problem
East and West Fremont Interchanges

Attached are copies of various correspondence relating to the problem of the primer on the East and West Fremont Interchanges. This material is being sent to you for your review prior to our meeting with Mr. Lindas.

The meeting will be held on Tuesday, November 14, at 9 a.m. in the small conference room.

Please note that the time of the meeting has been changed from that previously set.

WJH:dh
Attachment

cc A. E. Johnson /w/ attach.
L. I. Lindas /w/ attach.
H. A. Schell /w/ attach.
H. D. Mandrell /w/ attach.
J. D. Howard /w/ attach.
Robert Shotwell /w/ attach.

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OFFICE OF
A. E. JOHNSON
ASSISTANT STATE HIGHWAY ENGINEER

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
October 31, 1972

SUBJECT: Saroyan's Paint Reports
West Fremont Interchange
Contract No. 7214

To: Walter Hart
Bridge Engineer
Salem

Attached you will find a three page report dated October 27, from John Howard which is his analysis of Mr. Saroyan's answers to painting questions. This completes the Metro Section's review of the data submitted by Mr. Saroyan.

H. S. COULTER
Metropolitan Engineer

By:

Edward L Hardt

EDWARD L. HARDT
Assistant Metropolitan Engineer

ELH:pb

Encs

cc: John Howard

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OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon
October 27, 1972

METROPOLITAN ENGINEER
RECEIVED
OCT 30 1972

SUBJECT: Zinc Primer Loss
West Fremont Interchange
Contract No. 7214

To: Mr. E. L. Hardt
Asst. Metro. Engineer
O F F I C E

We have read both of Mr. Saroyan's reports concerning loss of zinc primer and have the following comments based on our field observation.

Question:

A-1 Excessive Blast Profile- We do not consider this a significant factor. From PTL's reports Canron had difficulty getting a white blast and a 1½ mil profile. They requested and were permitted a ½ mil profile plus RB 193. On SE Unit 1 the web on one girder section was rusted from what appeared to be an excessive profile. This unit was primed before the change to RB 193 with RB 191. We do not have any other specific examples.

A2, 8, and 10 Insufficient atomization pressure, excessive pot pressure, spray gun too close. The orange or rippled surface typlified by these application problems was not noted on the girders.

A3, 7 and 11 Insufficient pot pressure, excessive atomization pressure, spray gun too far from surface. The soft porous dusty surface wasn't apparent by the time the girdersreached the job site. We believe there is an application problem in the stiffener areas. It was very common to find rust on the horizontal stiffener and the web immediately adjacent on the girder interiors. A soft surface that could be washed away by the rain would explain this problem.

A4 Inadequate Pot Agitation- The zinc primer throughout the project was found to have considerable variation in thickness with in a given area. We have made surveys using a 6 inch grid on a 5 ft. by 6ft. girder web section and found thicknesses varying from 3.0 mil to 1.0 mil. A variation 1.0 mil is more common and we believe is typical for the RB 193 areas. RB 191 would be less. We can remember surface texture differences described for inadequate agitation but do not have supporting records. The difference in the rate of sloughing off of the hi-zinc areas compared to the vehicle areas could explain some of the thickness difference.

A5 Excessive Pot Agitation- Mr. Saroyan describes a spotty surface resulting from this condition. He does not indicate the appearance after the curing solution is applied. We have several photographs showing the spotty surface; however, this may be due to the acid cure.

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A6 Premature exposure to rain. This could be a factor but we do not have any information to support it.

A9 The evidence and effect of phosphoric acid cure spread at different rates. We are of the opinion that excessive acid cure is a factor in the zinc loss. The excessive white salts were very much in evidence on the interion surfaces of the ring girder sections. The acid cure is of special interest when considered with the possibility of inadequate pot agitation. The report points out the acid reacts with the lithium silicate vehicle; when this is neutralized it reacts with the zinc. Assuming the recommended spreading rate is used in the areas lacking in vehicle there would be excess acid to react with the zinc. With the already soft porous surface we would imagine there would be a significant film loss. This would further explain the difference in film thickness.

In the second report questions B, D, V, N and P do not pretain to the loss of zinc or this job so no comment has been made.

Question:

C and E The solubility of zinc when exposed to the SO_2 in the Portland atmosphere. The trapezoidal shape of the longitudinal girders exposes the interior surfaces to rain and SO_2. The exterior is relatively sheltered. The interior surfaces on the ring beam sections are completely protected. Mr Saroyan says the zinc and SO_2 react and the zinc slowly"washes away" We do not understand how this is possible on areas protected from the rain.

F and G Evidence of residue in the girders from washing of soluble salts by the atmosphere. The explanation for areas exposed to the rain is adequate. It is difficult to understand why there would not be some residue on a protected area.

H Comparison of small test panels to large areas. Mr Saroyan makes some valid points on the difficulty of duplicating actual conditions with a test panel.

I Effect of increasing the zinc content to 85%. Not pertinent.

K The effect of rust stain deposited on the zinc primer surface. Our measurement of paint thickness on rust stained areas showed no significant difference from adjacent unstained areas.

L and M Explain loss of zinc on WS 1, East Fremont over a ninety day period. Explain good condition of zinc on WE Unit 1 after 17 month. In these discussions we do not believe adequate consideration was given to (1) RB 193 plus acid cure was used on first example and (2) RB 191 without acid cure was used in the second.

O Comment on distance between paint gun and steel. This was covered previously on question A10 and 11.

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Q. Mr. Saroyan's opinion of the cause of the zinc primer loss. We do not agree that the Portland weather was the major factor in the deterioration of the primer. In our opinion the zinc loss is explained by a combination of the following:

1. Application- Difficulty in properly applying zinc in corner areas and the possibility of improper pot agitation.

2. Acid cure on the RB 193- This is the major factor if one can be singled out. None of the girders primed with RB 193 were in as good condition as those painted with RB 191.

3. The Portland weather- The surfaces exposed to the rain showed greater film loss than the less exposed areas.

J. D. Howard
John D. Howard
Res. Br. Engr.

JDH:ads

cc: Mr. R. Shotwell
    file

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NOV 1 - 1972
BRIDGE DIVISION

REV. 10-69

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213

October 26, 1972

SUBJECT: John Saroyan's Report II
East & West Fremont Approaches

To: Walter Hart
Bridge Engineer
Salem

Your letter of October 5, transmitted the second installment of Mr. Saroyan's answers to questions posed relative to Fremont Interchange painting and requested our comments which follow.

Question B-1 and B-2 deal with (1) putting vinyl directly over zinc and (2) applying five mils of vinyl in one coat. This is an after-the-fact examination of the method of applying vinyl on the East and West Interchange projects. Other than hope that this vinyl does not fall off the steel, I find little to comment on these two answers except that since Saroyan recommends applying vinyl in multiple thin coats to allow the maximum solvent release, this would explain our problem of bubbling and pinholing with one coat of vinyl. Since much of the vinyl has not as yet been put on the Fremont Superstructure, perhaps we should investigate the adhesion of the Mobil vinyl to the zinc on the structure to determine if adhesion could be a problem.

Question B-3: no comment.

Question C. Saroyan goes through a chemical analysis to show what happens when the inorganic zinc is exposed to an atmosphere containing sulpher dioxide. The important point in respect to Portland's "corrosive atmosphere eating away the inorganic zinc" is the time involved. I am confused by Saroyan's answer to Question C with respect to the time for the chemical reaction because in the third from the last paragraph on page 2 he mentions the word slowly in connection with the washing action. Yet in his summary of this question, he uses the word quickly with respect to this process. I believe the time for the zinc to be eroded to the point of rusting is most critical. Enjay's recommendation for hydrogen sulphide content for Rust Ban 191 use is 300 parts per million. The sulpher dioxide concentration in the Portland atmosphere during the most critical period was 0.03 parts per million. Assuming the chemical reaction to the inorganic zinc of these two pollutents is on the same order and I would have to defer to a chemist for confirmation of this, it is hard to imagine how the low concentration of sulpher dioxide compared to that recommended for hydrogen sulphide by Enjay could completely break down the paint system in a matter of two or three months. I can only think that the answer lies in the fact that the inorganic zinc in Portland was not properly cured so that it could not withstand the attack of the sulpher dioxide.

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OCT 30 1972
BRIDGE DIVISION

Xerox Copy to
L. Lindas
10-31-72 dk

Question D refers to an acceptable paint system and since it is not particularly germane to the inorganic zinc problem in Portland, I have no comment.

Question E: Since I don't understand the chemistry involved in Saroyan's answer to this question, I cannot completely comment on it. However, it appears as though he is talking about what might happen to the inorganic zinc if curing hasn't taken place. If this is the case, then the question of whether or not the inorganic zinc applied in Vancouver, B.C. was properly cured would have to be taken into account when analyzing this answer.

Question F and G: No comment.

Question H: I have no comment on Saroyan's remarks with respect to small test panels. I have observed many test panels at the Bonneville Power Administration's laboratory in Vancouver, Washington. They would be a good source of information if some was desired on this question.

Question I and J: No comment.

Question K deals with the rust "stain" which has been noticed on parts of the Fremont girders. I don't believe that this stain played a significant part in the breakdown of the inorganic zinc because I was never able to correlate the presence of the stain with the rust breakout on the girders. Perhaps Resident Engineers' Shotwell and Howard can comment more thoroughly on the correlation between stain and rust breakthrough.

Question L: Saroyan is assuming that the paint application process in Vancouver, B.C. was not deficient since "all factors were controlled, inspected and certified". The only uncontrolled variable in the whole sequence then could only be the environment in Portland and, therefore, he concludes that this must be the cause of the problem. I cannot necessarily accept this assumption as I have mentioned in my analysis of Saroyan's first set of answers since there is a strong question in my mind with respect to the proper curing of the inorganic zinc in Vancouver.

Question M: The answer to this question is the key to my thinking that the degree of cure of the inorganic zinc is more crucial than the environment in Portland. Saroyan is saying here that once the zinc is properly cured that the Portland environment has no effect on it. Therefore, when the girders are affected by the environment, it follows that they were not properly cured. This goes back to the application of the curing acid in the plant in Vancouver and my comments contained in my answer to Saroyan's first set of questions with respect to acid cure.

Question N: The answer to this question confirms my thoughts as expressed under Question M--namely, that the cure is more important than the environment. Saroyan states "once the inorganic zinc coating has cured and has demonstrated ability to self cure under those conditions, it probably has more resistence to agressive environmental action". I believe he is saying in this answer that the Mobil zinc applied in San Francisco was properly cured so that the Portland environment has little or no effect on it.

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Question O: No comment.

Question P: We came to the same conclusion as Saroyan and we have equipped the field offices with the Elcometer gage. Incidentally, we had a session with Canron's paint consultant, CanTest, and calibrated our gages with theirs so that there would be no argument about paint thickness readings on the project.

Question Q: Saroyan says he believes the fundamental cause for the inorganic zinc paint failure is the aggressive atmosphere at the site. In previous answers he has shown how sulpher dioxide will react with the inorganic zinc and cause chemical breakdown. Chemically I am sure this is true. However, he has made no showing as to the time involved for the sulpher dioxide to breakdown three mils of properly cured inorganic zinc paint. He has shown in Question M that this aggressive atmosphere has no effect on properly cure zinc. Therefore, the key to the problem would seem to lie in whether or not the paint was properly cured rather than the environment in Portland.

H. S. COULTER
Metropolitan Engineer

By:

Edward L Hardt

EDWARD L. HARDT
Assistant Metropolitan Engineer

ELH:pb

cc: A. E. Johnson
R. E. Shotwell
R. O. Cunningham
John Howard
John Jenkins

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FORM E-90 (REV. 10-68)

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
October 24, 1972

SUBJECT: John Saroyan's Paint
Report No. 1

To: Walter Hart
Bridge Engineer
Salem

Attached you will find a copy of a letter dated October 19, from Bob Shotwell which is his review of John Saroyan's paint reports and of my comments on the first report. My thoughts as expressed in my September 26, letter to you that the cause of the zinc paint breakdown could very well be the application of too much acid cure at the Vancouver paint plant would seem to be confirmed by the comment in Mr. Shotwell's letter that the "rust patterns followed chalk white stains on the zinc where the post cure acid actually ran down the sides of beams".

H. S. COULTER
Metropolitan Engineer

By:

Edward L. Hardt

EDWARD L. HARDT
Assistant Metropolitan Engineer

ELH:pb

Encs

cc: Robert Shotwell
John Howard w/attach.
R. O. Cunningham "
John Jenkins "

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BRIDGE DIVISION

Copy To Lindas 10-27-72 5771D

FORM E-30 (REV. 10-69)

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97227
October 19, 1972

SUBJECT: John Saroyan Paint Report
East Fremont Interchange

To:

Mr. H.S. Coulter
Metropolitan Engineer
5821 N.E. Glisan Street
Portland, Oregon 97213

Upon review of Mr. Saroyans report and Mr. Hardt's letter of September 26, 1972, I have the following comments.

Mr. Saroyans answers to Question A (parts 1-11) deals primarily with different aspects of the preparation of the steel & application details of zinc rich paint. As you know this work was not performed at the site. It is worth noting however that in Mr. Saroyans recap item b he states that a slight amount of white salt must be removed before top coating (when post cured). He goes on to say this can be accomplished by a minimal amount of washing. In his second report under question "B" he states the white deposits should be removed by high pressure wash. Mechanical scrubbing should also be used if necessary. This apparent inconsistency on a seemingly important point is confusing.

It should also be streesed that in many instances rust patterns followed chalk white stains on the zinc where the post cure acid actually ran down the sides of beams. Some beam sections were so overloaded with post cure acid as to be completely white and evident from 400' - 500'.

There is no doubt in my mind that these white beams which showed rust bloom were damaged by to much acid as indicated in Mr. Saroyan's Effect (1) 250 Sq.Ft.

Mr. Hardts letter of September 26, 1972, mentions beams on the East Fremont that had 2 coats of zinc primer & according to Canron Limited still were rusting.

The beams in question were the larger beams in Unit A. A special effort apparently was made by Canron to apply the proper paint thickness on these beams. The results were evident. Very little rusting was evident on these sections compared to the remainder of the job. These beams represent, in my opinion, the result of a tighting up of Quality Control by Canron in their Vancouver plant and indicate what the rest of the job could have looked like. The rusting that did occur can be attributed to the normal holidays and other problems on any paint job. Incidentally these beams sat through all the winter weather and were top coated late this summer (why didn't SO_2 bother them?).

METROPOLITAN ENGINEER
RECEIVED
OCT 20 1972
☐ ME ☐ AME ☐ AME ☐ ☐ MDE ☐ MTE

Very Truly yours,

Robert E. Shotwell
Resident Bridge Engineer

RES:rsr

CC: Files.

RECEIVED
OCT 26 1972
BRIDGE DIVISION

DAVIES, BIGGS, STRAYER, STOEL AND BOLEY
LAW OFFICES
TWENTY-THIRD FLOOR 900 SW FIFTH AVENUE
PORTLAND, OREGON 97204

TELEPHONE (503) 224-3380
CABLE ADDRESS: HARTPORT

CHARLES A. HART
DAVID L. DAVIES
HUGH L. BIGGS
MANLEY B. STRAYER
THOMAS B. STOEL
PAUL L. BOLEY
FREDERICK H. TORP
JAMES P. ROGERS
RICHARD DEVERS
GEORGE H. FRASER
WILLIAM W. WYSE
JOHN R. HAY
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RICHARD E. ROY
JEFFREY MICHAEL ALDEN
MILTON R. STEWART
CHARLES F. HINKLE
K. PATRICK NEILL
ROBERT S. QUINNEY
JOY D. ABELE

October 16, 1972

Mr. Leonard I. Lindas
408 Highway Building
Salem, Oregon 97310

Dear Leonard:

Delivered herewith are the following:

1. Two transparent slides OSHD furnished Mr. Saroyan;

2. Enlarged photographic prints of each of the slides;

3. My letter to Mr. Gordon Smith of Can Test, Ltd. requesting his comments on the pictures, and his reply to me dated October 12, 1972;

4. A copy of my letter forwarding the photographic prints to Mr. Saroyan and requesting his comments.

I am seeking confirmation that the photos were received by Mr. Saroyan. By telegram I have asked him to expedite his response so that we, in turn, can sit down with you at the earliest possible date and resolve this whole problem.

Very truly yours,

Richard A. Franzke

Enclosures

DAVIES, BIGGS, STRAYER, STOEL AND BOLEY
LAW OFFICES
TWENTY-THIRD FLOOR 900 SW FIFTH AVENUE
PORTLAND, OREGON 97204

CHARLES A. HART
DAVID L. DAVIES
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BRIAN G. BOOTH
WILLIAM M. McALLISTER
BARNES H. ELLIS
HOWARD M. FEUERSTEIN

TELEPHONE (503) 224-3380
CABLE ADDRESS: HARTPORT

JOHN E. HUISMAN
BERTRAND J. CLOSE
VELMA JEREMIAH

PHILLIP D. CHADSEY
KENNETH D. STEPHENS
DAVID P. MILLER
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K. PATRICK NEILL
ROBERT S. QUINNEY
JOY D. ABELE

October 13, 1972

Mr. J. R. Saroyan
c/o Christopher Inn
300 E. Broad Street
Columbus, Ohio 43215

Dear Mr. Saroyan:

Upon receipt of the State's color slides from you, I sent them to Mr. Gordon Smith of Can Test, Ltd. for his comments. Subsequently, I obtained enlarged photographic prints of each slide and furnished these to him also. I was interested in Mr. Smith's opinion because, as you may know, he followed the painting operations at Canron's plant while the work was being performed and he has conducted various tests for us since the paint problem became known.

Mr. Smith's report is enclosed and as you can see, after examining the enlarged photos, he questions that the "salts" in the picture are from the curing accelerator.

Since the enlarged prints were not available when you examined the slides, I am enclosing one of each and I would appreciate any further comments you may care to make with respect to the pictures and also your comments on the various points raised by Mr. Smith.

This request is submitted to you on the same basis as previously.

Very truly yours,

Richard A. Franzke

Enclosures

cc: Mr. Leonard Lindas

Airmail, Special Delivery

TEST LTD.

1650 PANDORA STREET, VANCOUVER 6, B.C. • TELEPHONE 254-7278

October 12, 1972

Davies, Biggs, Strayer, Stoel and Boley
Twenty-Third Floor, 900 SW Fifth Avenue
Portland, Oregon
97204

Attention: Mr. Richard A. Franzke

Dear Mr. Franzke:

I was about to call you and tell you that I could not respond to your enquiry until I received the prints. The transparencies you sent with your letter are impossible to interpret, with any reasonable degree of accuracy. However before I got around to calling you, the prints arrived and they are clear enough that I think I can answer your questions.

It is impossible to identify the source of the apparent "Salt like" deposits that are evident in the pictures. Formation of white salts is a highly probable sequence of curing and/or transportation and/or storage without a protective seal coat. The manufacturers literature acknowledges that salts are formed as a consequence of the curing process but further points out that they are harmless and easily removed by washing off with water. If the white deposit is indeed salts they are not typical of the salts routinely apparent throughout the projects.

It should at this stage be pointed out that if the colour in the pictures is true the general colouration is very atypical of that produced by the Rust Ban 191 and 193. The colour in these pictures is a grey blue whereas the Rust Bans normally produce a silvery pink colour due to the small amount of iron oxide present in the zinc powder of the pigment.

If the colour is correct we would infer that some abnormal chemical change has taken place in the pigment in the areas where these pictures were taken. Since this colour is not at all typical of the general appearance we would have to conclude that the surface in the areas photographed has been subjected to some chemical attack after the steel in question was shipped from the Canron plant. Assuming this to be correct any interpretation of the "white salt" like deposit must be associated with this reaction. If the colour in the pictures is not true then they lose all value as a reference.

As further evidence that the "salt like" deposit is unlikely to be associated with the spray applicater of the curing agent, the spray equipment for application of the accelerator would normally produce a pass approximately two feet wide, on this basis, about four passes would be necessary to cover a seven ft. deep member and there would be three areas of overlap on the side of the member. One would expect the excess "salts" to appear at the areas of overlap. This picture does not reflect that condition in any way. To the contrary, the 7 or 8 wave lines of salts, I would estimate, are on an average only about 5 or 6 inches apart. Even if it were assumed the "salts" are the result of some curing action there is no basis to assume in view of this dissimilarity in pattern, that they resulted from the application of the accelerator.

The dissimilarity between the close-up photograph and the erected member must also be noted. The narrow streaks in the close-up are very different from the blotchy, irregular deposits on the erected member. It is also significant that the deposits on the erected member do not show a consistent direction of flow. In fact, it is impossible to determine from this photograph whether the members were right side up or upside down when the "salting" occurred. We do know that the accelerator was applied in Canron's paint line while the members were upside down.

From our experience and from our examination of these pictures we would seriously question that the "white salt" deposits are the product of the curing accelerator. Can Test Ltd. conducted a number of experiments using different spread rates of curing accelerator and our tests produced some salt deposit only when we exceeded the recommended spread rate on the order of four times. If, however, accelerator had been applied to the member in the photograph at four times the recommended rate of coverage, there would have been two results:

A. Prior to shipment the member would have been rejected at the Canron plant because the coating at that time would have degraded to produce a soft, powdery, blistering and flaky surface.

B. Some relatively short time later substantially the entire surface would have been rusted. In the photograph however, there is only a single band of rust about 1/3 the distance down from the top.

I mentioned earlier that the zinc salts formed as a result of the curing process are removable by washing. One might expect that if the "salts" in the photograph were attirbutable to the accelerator they would show some evidence of washing due to the heavy rainfall in Portland.

While one can speculate at length about the nature and origin of the "white" deposits in the photograph, it is academic so to do. The important point, in our opinion, is that there is no correlation between the apparent rust and the distribution of the "white salt" deposits over the surface of the erected member. To the contrary (and this is true also in close-up photograph) there is rust above, within, and below the "salt deposit".

The physical appearance of the streaking apparent in the close-up photograph more nearly resembles the flow pattern of the accelerator which we many times observed. The manufacturer states and ordinary experience confirms that if a fluid with the viscosity of the accelerator is sprayed on a nearly vertical surface so as to "thoroughly wet" that surface some fluid will run down the surface and this will be evident as streaks. Again, examination of the close-up photograph does not disclose a correlation between the presence of rust and the streaks on the surface. Some of the most pronounced rusting is in areas where there are no streaks and conversely where there are streaks there sometimes is no rusting. Again, it would appear there is virtually no rusting under the areas where the "white deposits" are the heaviest which of course is consistent with the total paint theory, i.e. protection of the zinc by accumulation of salts which fill the pores and prevent penetration of water to the substrate.

The rusting that is apparent in these photographs is not unlike that which was wide-spread throughout these projects, including members painted with Rust Ban 191, with which no curing accelerator was used.

In summary, we would offer the following comments:

1. We can not state with any certainty the nature of the "white deposits" apparent in these photographs. i.e. whether zinc salts and/or other soluble or insoluble salts.

2. From examination of the photographs we are inclined to believe that the "white deposits" evident on the erected member are not the result of application of curing acid since they are totally unlike the "salt" deposits we personally observed at the plant and throughout the project over a period of many months. Neither the pattern nor the distribution of the "salt" deposits in this photograph resemble what we saw or, indeed what one would expect considering the manner of application.

3. The colour of the paint film in the pictures gives rise to some doubt as to whether the paint film has not been subjected to attack by some chemical source.

4. Regardless of the origin and nature of the "salts", we cannot from these photographs see any correlation between the rusting and the presence of the deposits, except that the "salts" appear to have protected the zinc coating so that virtually no rust is apparent through the "salt" build up.

5. The rust apparent in these photographs is not unlike that we observed throughout both projects, affecting steel painted with both Rust Ban 191 and Rust Ban 193.

6. From previous laboratory testing we determined that application of excess accelerator caused visible damage to the zinc which was apparent very soon after application of the accelerator and which affected the adhesion and hardness of the primer coating. No such damage is apparent in these photographs.

In our previous report to you we stated that based upon our investigation and testing, in our opinion the loss of film thickness was inevitable and the consequential rusting would continue until a seal coat was applied over the zinc primer to protect it from the aggressive contaminants in the atmosphere. We adhere to that opinion.

Your photographs and slides are returned herewith.

Yours very truly,

CAN TEST LTD.

J. G. Smith

JGS:lr

COMMENTS ON FREMONT BRIDGE PRIMER PROBLEM

STUDY OF COLOR PHOTOGRAPHS IN REGARDS TO PLATE SECTION WITH UNUSUAL EXCESS SALT DEPOSITS

by

JOHN R. SAROYAN

1. PREFACE

Study of the color photograph (Photo #1) shows unusual patterns and amounts of salt deposits. The patterns suggest fluid flow and a moving front of a fluid carrying soluble and/or particulate matter. Also it is important to note that the amounts of moving or flowing fluid had to be in excess, beyond normal—for example more than could result from just applying the normal curing agent on the applied Rust-Ban 191 or 193, at the spreading rate of 1 gallon of curing solution per 400 square feet of coating surface.

2. FLOW DIRECTION

To establish some timetable as to when the salt deposits appeared, it is necessary to determine the direction of the salt material flow. To review the color photographs, and refer to particular areas, Photo #1—so marked—has been marked in coordinates: "A, B, C---R" along one axis and "1, 2, 3---31" along the other axis.

3. SCANNING PHOTOGRAPH OF DEFICIENT BRIDGE SECTION, PHOTO #1

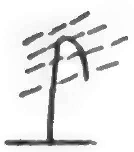
It appears that the general direction of salt material flow of fluid on the subject coated plate, is upside down to the erected-in place-member as shown by Photograph #1. In contrast, a smaller plate shown in Photo #1, coordinates "A-E" x "25-31" shows a normal flow downward in the direction of "E" to "A". Examining the flow, the salt deposits are downward and are identified as a border or flow front.

To examine the main subject plate, turn the photograph (#1) upside down. (The coordinates are duplicated for convenience). Let us look at certain areas to determine flow direction and hence establish when the deficiency developed.

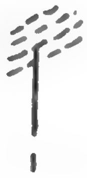
(A) AREA "H-I" x "25-27"

Let us look at the area, letters "B i J", turn the photograph upside down such that the letters appear now as : "ſ ᴉ ꓭ". Let us examine this further.

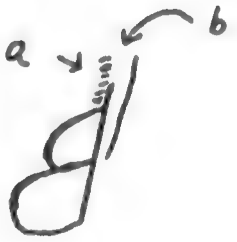
(1)



(2)



(3)



(1) The fluid flow clouded over the portion of the letter "J" as shown in the upside down position. The flow (with the photo upside down) is downward. This shows the salt deposits appeared before the plate was erected. The plate was stored in the upside down position.

(2) The "i" is also clouded over (photo upside down) with the flow again downward.

(3) With the photo upside down, the extended leg of the "B" which now is at the top of the . The flow, downward, approached the leg of the "B" and was confined to the left, "a", of the leg of the "B". The right side of the leg of the "B" shows drainage, "b", (appears as darker area) of flow material. Again the flow is downward with the steel coated plate upside down.

(B) AREA "G" x "1-14"

With the photo (#1) upside down, this area to interpret flow, could represent a pass of the spray application of the curing solution or whatever fluid material produced the flow pattern. The flow is downward. The 3-lobed area at "H-K" x "10-13" shows downward flow. Again, the deficiency as indicated by salt deposits, occured prior to erection while the member was stored.

(C) AREA "G-K" x "1-10"

With Photo #1 upside down, again the flow was downward. There apparently is uneven absorption and surface wetting due to varying porosity and random surface texture, producing the "confusing" light and heavy areas of salt deposits. Again, the salt deposits are formed from a downward flow of material and are identified as a border or flow front. The borders of salt deposits are further supported with material by drainage from adjacent areas (dark areas).

(D) AREA "G-L" x "18-27"

Again with Photo #1 upside down, starting at level "G" and extending "18-27", the flow was downward. There is a fairly even flow downward, with a few scattered areas of depleted salt deposits showing up as darker areas. As the flow front moved downward, there was a linear break in surface absorption, such that it appears that there was a separation or shrinking away in the flow of material. As the flow continues downward, another salt border or concentrated salt front appears ("K-L" x "20-26"). Again there is drainage from the adjacent areas to the salt front (dark areas) supplying more material.

4. POROSITY NATURE OF INORGANIC ZINC COATINGS

By nature, most applied inorganic zinc coatings are porous. The degree of porosity from area to area on the surface can vary considerably. For example, when the curing solution is sprayed on the surface, a variety of absorptions can be displayed. Some areas may appear flooded, more wetted, and some areas may appear dry, less wetted. The instructions are to thoroughly wet the surface with the sprayed curing solution. At the normal spray rate of about 400 square feet of surface per gallon of curing solution, a nominal degree of white salt deposits usually result. Surplus or excessive salt deposits as indicated by the present subject coated plate, would suggest an abnormal situation.

5. POSSIBLE CAUSES OF EXCESS SALT DEPOSIT - DEFICIENCY

The unusual pattern and amount of salt deposits on the section of the subject steel plate requires explanation. The following three possibilities are cited:

A. Touch-up painting was done, repairing the particular plate, using additional inorganic zinc primer and using excessive curing agent.

B. Environmental conditions were such that chemical reactions took place to produce excessive salt deposits.

C. A gross dislodging of the applied inorganic zinc primer film took place with chemical degradation resulting.

6. DISCUSSION OF A.

On my first visit to the Fremont Bridge site, I did witness various touch-up painting of steel members, where excessive inorganic zinc primer was applied. This appeared to be done on a random basis—I do not believe that at a future date anyone could describe what plates were touched up and to what extent. Only quality assurance records, if kept, could establish whether the subject plate was touched-up or not.

DISCUSSION OF B.

In previous discussions, it has been established that the Portland, Oregon atmospheric environment is very aggressive. The sulfur dioxide (SO_2) could be responsible for coating deterioration. In review, the SO_2 with moisture formed sulfurous acid and then sulfuric acid. The sulfuric acid could then react with various materials. It could react with zinc metal to form zinc sulfate salt; it could react with unreacted or uncured lithium silicate to form lithium sulfate salt; and if it penetrated to the steel, iron sulfate salts could form. In all these cases, the sulfate salts are readily soluble in water and certainly would be washed away by the prolonged rains. The excessive amounts of salts formed then don't seem feasible on the above basis.

A possible explanation of the excessive salt deposit on the subject plate may be as follows: Another aggressive environmental factor at the Fremont Bridge site was probably due to the numerous cement manufacturing plants. It was described to me, at times dense clouds of cement dust are expelled into the air. These clouds could deposit on the ground and stored plates. The cement dust particles are calcium compounds which are quite alkaline. Such alkaline materials could react with the inorganic zinc primer film and possibly cause some reversal of the cured film—undo the silicate complex. The calcium alkali dust could react in several ways. The reversal of the silicate complex could produce the original lithium silicate and provide the potential for film dislodging or degradation. Then the acid phosphates could be nuetralized by the alkali forming alkali calcium phosphates. Also, the zinc metal could react to form alkali zinc compounds and carbonates (CO_2 from the air, plus alkali condition) with the addition of sufficient cement dust, the resulting excess amounts of salts could be provided for. This appears to be a feasible explanation of the derivation of the excessive salt deposits on the subject steel plate.

DISCUSSION OF C.

Another promising explanation for the excessive salt formation is a gross dislodgement of the applied inorganic zinc primer. The exact sequence may not be exactly as identified, but the important event is that the film is dislodged (or deteriorated). To speculate, the applied film must have been in a "weakened" state, perhaps not fully cured, before the dislodgement could take place. For example, the plate could have been in the open and subjected to rain before full cure had been obtained, dislodging the film. The rain would wash away the curing solution, and the uncured lithium silicate. The "fractured" coating materials would form in flow patterns in excessive amounts. These materials would include zinc reaction products, lithium compounds and phosphates.

7. REVIEW OF CLOSE-UP PHOTOGRAPH, MARKED #2

This photograph shows a typical draining of a water-thin material, such as the Rust-Ban 195 curing solution, (phosphoric acid solution). The flow downward and the subsequent streaking looks normal. The peninsular shaped streaks show, within the confines, areas of heavier salt deposits. The diagonal corrosion zone above the peninsular streaks appears to be drained first of some coating film material, providing a surplus of salt deposit materials and then permitting rusting to take place.

8. SUMMARY

A. The normal application of Rust-ban 195 curing solution would not produce the extensive and dense salt deposits that apparently withstood frequent rains. Such salts would not remain especially after frequent rains. It then must be concluded, that the deficiency as salt deposits would not be derived singly from the normal application of cure solution.

B. Aggressive atmospheric factors such as the sulfur dioxide and rain could not produce the excessive salt deposits, especially when such salts would normally be sulfates which would readily wash away with the frequent rains.

C. An aggressive factor as alkali cement dust emitted from cement plants in the Fremont Bridge area, could have reacted with the Rust-ban inorganic zinc primer. Such alkaline reactions could have caused breakdown of the coating, producing a variety of soluble and insoluble salts, which rain could cause to flow away into patterns and salt deposits.

D. The extent of the salt deposits had to be derived from an ample source of material. The most logical material supply is the Rust-ban inorganic zinc primer itself. Under severe deterioration conditions, there could result salts that become insoluble and accumulate; with frequent rains several flow patterns can result.

E. In addition to the above, an additional source of salts could have been derived externally, adding to the salt source from the Rust-ban inorganic zinc primer plus the 195 cure solution. Although the sulfure dioxide finally reacts to form sulfates that have been identified as soluble and normally wash away by the frequent rains. However, with calcium compounds such as calcium oxide and calcium hydroxide (and some silicates) the sulfates that form are relatively insoluble calcium sulfate. These can accumulate and add to the salt deposits.

9. CONCLUSION

A. The deficiency as excessive salt deposits, with rust breaking through, on the subject plate (Photo #1) could not have been derived from normal application of curing solution.

B. The sulfure dioxide aggressive environment factor of its own could not produce the ample salt deposits since salts derived are readily soluble sulfates and would wash away by rain.

C. The alkali calcium products as clouds of dust from cement manufacturing plants near the Fremont Bridge site could have contributed to production of salt deposits by alkali reactions with the inorganic zinc primer.

D. The sulfur dioxide and the calcium cement dust, together or in sequence, could have contributed to the formation of excessive salt deposits.

E. The excessive salt deposits had to be derived from gross dislodging or deterioration of the inorganic zinc coating film, associated with rain to produce the flow patterns. Following the removal or fragmenting of the inorganic zinc film, the weakened coating permitted the extensive rusting. This destructive action had to happen prior to erection of the subject plate into the bridge structure. Such destructive action had to result from inorganic zinc coating that had not been fully cured and subjected to rain as the physical impact; or such destruction resulting from chemical aggressive environmental factors including sulfur dioxide and calcium alkali cement products, together or in sequence.

October 4, 1972

Mr. Gordon Smith
Cantest Limited
1650 Pandora Street
Vancouver, B.C.
Canada

Dear Gordon:

I am enclosing herewith two transparent slides taken by the Oregon State Highway Department and furnished to us in connection with the study of the primer paint problem.

It has been suggested that these slides indicate excessive application of curing accelerator. Because you had occasion to view the paint operations during production and also to visit the site after the members were in place, I would appreciate your comments on these slides as they may relate to the overall primer failure.

I am having some prints made from these slides and I will send them to you when they are available.

While you should feel free to take whatever time is necessary to properly analyze this question, we are very anxious to conclude our discussions with OSHD, and, therefore, will appreciate your response as soon as possible.

Very truly, yours,

Richard A. Franzke

RAF:pm
Enclosures
CC: Canron Limited

-90 (REV. 10-60)

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
September 26, 1972

SUBJECT: John Saroyan's Report on
Zinc Paint Failure
East & West Fremont Approaches

To: Walter Hart
Bridge Engineer
Salem

Your letter of September 20, transmitted a report by John Saroyan relative to a series of questions which had been submitted to him with respect to the zinc paint problem on the Fremont approaches. You requested our review of this document by Mr. Saroyan and any comments we might have.

In order to better examine this report, I separated it into two parts ---- (1) those questions and answers which deal with the blasting of the steel and the mechanics of getting the paint onto the girders which is covered by all questions except No.'s 6 and 9 and (2) those questions (6 and 9) which deal with events which occurred after the paint was applied and which might help explain the zinc problems.

Tabulated below for easy reference are the first set of questions dealing with the mechanics of painting. That column shown as "Evidence" was taken from Mr. Saroyan's report and the column entitled "Help Explain Problem" is my evaluation of Mr. Saroyan's answers.

	Cause	Evidence	Help Explain Problem
1.	Excessive blast profile	Course, rough, surface	Yes
2.	Insufficient atomization pressure	Orange Peel & Lack of adhesion	No
3.	Insufficient pot pressure	Granular, dusty, dry, porous coating	Yes
4.	Inadequate Agitation	(a) course, highly pigmented dull areas (b) very glassy, smooth areas (c) areas between (a) and (b)	Yes
5.	Excessive agitation	Modeled, spotty paint film This answer mentions cure solution RB 195. This was not used on RB 191.	Yes

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NOTED
W. J. HART

	Cause	Evidence	Help Explain Problem
7.	Excessive atomization pressure	Granular, dusty, porous film	Yes
8.	Excessive Pot Pressure	Orange Peel and Lack of Adhesion	No
10.	Gun too close to steel	Orange Peel and Lack of Adhesion	No
11.	Gun too far from steel	Granular, dusty, porous film	Yes

You will note that my evaluation of answers (2), (8) and (10) is that these causes would not help explain the zinc paint problem. The reason for this conclusion is that the "Evidence" as given by Mr. Saroyan for these three causes is "Orange Peel" paint surface and lack of adhesion. To the best of my knowledge, orange peeling and lack of adhesion has never been mentioned as a problem with the 193 zinc paint. The evidence and effect given by Mr. Saroyan in the answers to the other questions in this first catagory (questions (1), (3), (4), (5), (7) and (11) do suggest that these causes could be contributors towards the zinc paint problem. However, it is my personal opinion that these probably did not play a very large role in contributing to the problem. All the "Evidence" listed is manifested in a very poor-appearing paint job. If we had any paint inspection at all in Vancouver, and I'm sure we did, the inspectors would have noticed this poor product and we would have had some mention of this. This is not to say that some of the "Causes" listed didn't occur and that they didn't have some bearing on the problem but I don't believe that the answer to the problem lies in the mechanics of putting the paint on the girders.

Question No. 6 deals with the consequences of exposing the freshly painted girders to rainfall. The answer assumes that RB 191 was postcured prior to exposure. This was not the case. This answer should be amplified with the understanding that the RB 191 was not postcured. RB 193 was postcured with RB 6851 but this answer does not mention RB 193. I would assume that the answer would be the same, but this should be clarified. It is very interesting to note that the "Evidence" given in the answer of a "blotchy" or a water stained area describes the steel girders as they were received in Portland.

Question No. 9 deals with the effects of application of various rates of acid curing solution on the freshly painted girders. Unfortunately Mr. Saroyan is talking about the application of RB 195 curing solution on RB 191 inorganic zinc. In actuality, RB 6851 acid cure, was applied over RB 193. It may be that the data supplied by Mr. Saroyan applies equally to the paint and acid actually used but this should be verified. My comments that follow assume that Mr. Saroyan's answer would be the same if he had been using the correct formula numbers.

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Saroyan goes through a chemical analysis of the acid cure and paint to end up verifying that Enjay's recommendation of using 1/2 gallon of curing acid per gallon of inorganic zinc is correct. He then goes on to calculate a spreading rate for the acid based on an assumed spreading rate for the inorganic zinc. By assuming that the zinc was applied three dry mils thick over the peaks of the profile and further that the profile was a mil and a half to two mils deep, he concludes that the spreading rate for the zinc was 200 square feet per gallon and that, therefore, the spreading rate of the acid was correctly stated by Enjay at 400 square feet per gallon.

Mr. Saroyan's assumptions are based on the data that has been supplied him. However, I believe that some refinements should be made in these assumptions. With respect to the thickness of the film, a modification was made early in the project with respect to where the top of the blast profile stopped and the bottom of the paint film started and I am reasonably sure that some projection of the blast profile into the paint film was allowed when it came to measuring the film thickness. Secondly, when the change was made to RB 193, since it had better adhering qualities, the requirement of a one and a half to two mil anchor pattern was dropped in favor of obtaining a near-white blast. As a result, it was reported that the anchor profile used for the 193 paint was a half mil thick.

Therefore, where Mr. Saroyan assumes that there is a total of four and a half mils of zinc paint on the steel for spreading rate purposes, I believe a closer approximation would be on the order of three mils, say two and a half mils for the paint thickness and a half a mil allowed for filling the blast profile, giving a total of three mils. This would give a spreading rate for the zinc paint of 300 square feet per gallon and a spreading rate for the acid of 600 square feet per gallon. Since Canron was instructed by Enjay to use a spreading rate of 400 square feet per gallon and further, assuming that Canron painters may have used the theory that if a little is good a lot is better, it is conceivable that the amount of acid cure actually applied may have approached double that actually required.

If one can correctly hypothesize that the amount of curing acid actually applied is anywhere near double that which should have been applied then it is not difficult to explain what happened to the inorganic zinc paint when one reads Saroyan's "effects" of the application of acid at a rate of 250 square feet per gallon when he is assuming that 400 square feet per gallon is the correct rate. The "effects" as described by Saroyan of this "overdose" of acid describes almost exactly the phenomenon of zinc paint disappearance which we actually experienced. In my memo of April 8, 1971 written after visiting Canron's paint line in Vancouver, there is a statement that "Gordon Smith of CanTest has a theory that the phosphoric acid which is being used for the post-cure is absorbed deep into the zinc coating, possibly clear to the base metal, then later when the paint is exposed to moisture the unused acid is reactivated, comes to the surface and softens the surface of the zinc". If it can be shown that excessive acid was applied to the inorganic zinc, then Gordon Smith's theory takes on added significance.

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The above-mentioned assumption of a total of three mils of zinc yielding a spread rate of 300 square feet per gallon of zinc is predicated on the operation in Canron's plant prior to the discovery of the paint problems in Portland. After this point in time, Canron made a deliberate effort to put more zinc on the girders and even went so far as to apply two coats. They have recently told us that even these girders have given trouble in Portland.

If these latter girders have also had zinc paint problems and perhaps Mr. Shotwell can comment on this, I believe this also can be explained by the application of acid cure. If you assume the milage of zinc put on in the latter condition is 5 to 5-1/2 mils with an additional allowance of a half mil for the profile covering, then a spreading rate for the zinc would be on the order of 150 square feet per gallon which would give a spreading rate for the acid of about 300 square feet per gallon. If you also assume that at this point in time Canron's people were following Enjay's recommendations for acid spreading rate more closely, and my memo referred to above mentions an acid spreading rate of 460 square feet per gallon, then you would have the situation where not enough acid was being applied and the effect described by Saroyan under his spreading of 800 square feet per gallon would apply. According to Saroyan, this condition would also promote premature rusting because the paint would not be adequately cured out.

Under the answer to question 9, Saroyan comments on the transparencies sent him. I didn't see these, but if they were typical of our problem, and I presume they were, his comment that they depict an obvious excess of curing solution is particularly significant in light of what I have said above.

I have sent copies of this letter to the three Resident Engineers on the Fremont project hoping that they would comment on my review as well as Saroyan's report and send their thoughts on both to you.

H. S. COULTER
Metropolitan Engineer

By: Edward L. Hardt

EDWARD L. HARDT
Assistant Metropolitan Engineer

ELH:pb
cc: A. E. Johnson
R. E. Shotwell
John Howard
R. O. Cunningham
Dean Mandrell

RECEIVED
SEP 27 1972
BRIDGE DIVISION

DAVIE BIGGS, STRAYER, STOEL AND OLEY
LAW OFFICES
TWENTY-THIRD FLOOR 900 SW FIFTH AVENUE
PORTLAND, OREGON 97204

ART
IES
OS
STRAYER
STOEL
OLEY
CK H. TORP
. ROGERS
O DEVERS
E H. FRASER
AM W. WYSE
N R. MAY
VELAND C. CORY
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OBERT H. HUNTINGTON
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THOMAS P. DEERING
CAMPBELL RICHARDSON
MILO E. ORMSETH
CHARLES J. McMURCHIE
GARRY R. BULLARD
ROBERT L. RIDGLEY
RICHARD A. FRANZKE
EDWARD L. EPSTEIN
BRIAN G. BOOTH
WILLIAM H. McALLISTER
BARNES H. ELLIS
HOWARD M. FEUERSTEIN

TELEPHONE (503) 224-3380
CABLE ADDRESS: HARTPORT

JOHN E. HUISMAN
BERTRAND J. CLOSE
VELMA JEREMIAH

PHILLIP D. CHADSEY
KENNETH D. STEPHENS
DAVID P. MILLER
TERRENCE R. PANCOAST
HARRY S. CHANDLER
JIM D. KORSHOJ
HENRY H. HEWITT
WALTER C. MINNICK
JERE M. WEBB
RONALD S. GROSSMANN
LUCIAN J. CARSON
RICHARD E. ROY
JEFFREY MICHAEL ALDEN
MILTON R. STEWART
CHARLES F. HINKLE
K. PATRICK NEILL
ROBERT S. QUINNEY
JOY D. ABELE

July 31, 1972

RECEIVED
AUG 1 1972
LEGAL

Mr. L. I. Lindas
Assistant Attorney General and
Counsel, Oregon State Highway Division
Salem, Oregon 97310

Dear Leonard:

Re: Fremont Bridge Primer Problem

Enclosed for your file is a copy of the questions submitted to John Saroyan with the note I have added at the end.

Very truly yours,

Dick

Richard A. Franzke

RAF:pm

Enclosure

DAVIE BIGGS, STRAYER, STOEL AND OLEY
LAW OFFICES
TWENTY-THIRD FLOOR 900 SW FIFTH AVENUE
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ROBERT S. QUINNEY
JOT D. ABELE

July 31, 1972

RECEIVED
AUG 1 1972
LEGAL

Mr. L. I. Lindas
Assistant Attorney General and
Counsel, Oregon State Highway Division
Salem, Oregon 97310

Dear Leonard:

Re: Fremont Bridge Primer Problem

Enclosed for your file is a copy of the questions submitted to John Saroyan with the note I have added at the end.

Very truly yours,

Dick

Richard A. Franzke

RAF:pm

Enclosure

Questions for John Saroyan

A - What would be the evidence & affect of:

1. Excessive blast profile?
2. Insufficient atomization pressure?
3. Insufficient pot pressure?
4. Inadequate agitation?
5. Excessive agitation?
6. Premature exposure to rain? (before 24 hours elapsed)
7. Excessive atomization pressure?
8. Excessive pot pressure?
9. A phosphoric Acid curing solution pH below 1.0 applied at 400 sq. ft. per gallon. 250 sq. ft. per gallon. 800 sq. ft. per gallon (See Transparencies)
10. The gun being held too close to steel?
11. The gun being held too far from steel?

B - Generally, comment on the advisability of:

1. Putting vinyl directly over zinc.
2. Using 5 mils of hi-build vinyl in one coat (viscosity over 125 KU)
3. Using a vinyl wash primer or some other seal coat.

C - Realizing that a phosphoric acid curing agent was used, and that the members were barged from Vancouver to Portland, how soluble would the zinc be when exposed to atmosphere containing 30-50 parts per billion SO_2?

D - Your comments on an acceptable system.
Is the following system sufficient?

Primer	- In organic Zinc - Ethyl Silicate	(3 mils)	
Stripe Coat	- Organic Zinc (Epoxy)		
	Vinyl Wash Primer (117)		
	Vinyl Hi-Build 80 KU	(3 mils)	(first coat)
	Vinyl Hi-Build 80 KU	(3 mils)	(second coat)

E - Is Portland, Oregon's, winter atmosphere deleterious to a water based inorganic zinc primer without a seal coat?

F - Should there have been a residue on the ~~members~~ steel girders painted from a washing of the soluable salts caused by the Portland winter atmosphere?

G - If your answer is yes, what evidence should there have been on the ~~members~~ girders to indicate a residue?

H - Would use of small test panels be indicative of reaction of paint on large steel panels?

I - What effect would result from increasing the zinc content to 85%?

J - Was a tie coat necessary after the application of the zinc primer?
Was a Seal Coat necessary after the application of the zinc primer?
Was a Wash Coat necessary after the application of the zinc primer?
Are the foregoing terms, or any two, synonymous in the trade?

K - Does rust "stain" which has been deposited from an unpainted area such as the top flange have a detrimental effect on the zinc primer and/or the finish coat?

L - The longitudinal girders on Unit WS-1 of the East Fremont showed very thin primer when checked less than 90 days after painting. Please explain, after considering the following factors:

Paint Used - Enjay Rust-Ban 193 with Post Cure
Type Const. - Longitudinal Trapezoidal Girders
Quantity - 500 Tons with 60,000 sq. ft. of surface area
Painted - January 1971
Shipped - January and February 1971
Checked - Paint thickness checks made in late March 1971
Gage - Used Micro-Metrics Tooke gage
No. Readings - Approximately 500 readings spaced throughout unit
Paint Thickness - The interior of the box averaged out about 1 mil. The exterior about 2 mils.
Rust - Numerous areas up to 4' in diameter showed discoloration from "pinhole" rusting in addition to the stain from the top flange.

(We used this Unit as an example not because it was the worst, but because we had many readings, taken a relatively short time after painting.)

M - The structural steel in Unit WE-1 of the West Fremont, which was primed with rust-ban 191 and "self cured" was still in good condition after 17 months of exposure. Please explain, after considering the following factors:

Paint Used - Enjay Rust-Ban 191, self cured.
Type Const. - Trapezoidal Girders & Box Beams
Quantity - 600 tons with 70,000 sq. ft. of surface area
Painted - July 1970
Checked - November - December 1971
Paint Thickness - Apparent loss during the above period of 0.8 mils.
Rust - A few isolated spots of pinhole rusting

N - According to surveys b[illegible]he Resident Engineer on the F[illegible]mont Superstructure, the primer there is not deteriorating at a rate faster than we would expect. This steel was painted in San Francisco with Mobil Zinc 1, self cured and has been stored in Portland since the fall of 1970 with a loss of approximately 1/2 mil. The Resident Engineer feels that the rusty areas you have observed were never properly coated. Could you give us some insight as far as this is concerned?

O - We have been told that the distance between the paint gun and the steel surface is very critical with inorganic zinc primers. Would you comment on this.

P - We would appreciate any comments you might have in regard to selection of a thickness gage for this type of work.

Q - Your opinion of the cause of the loss of the inorganic zinc primer.

NOTE: Please define "tie coat," "Seal Coat," "Wash Coat," referred to in question "J" above.

FORM E-36 (REV. 10-69)

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE
Portland, Oregon
July 21, 1972

SUBJECT: East & West Fremont
Contracts 7310, 7311 and 7214
Zinc Primer

To: Leonard I. Lindas
Ass't Attorney General
Highway Building

In regard to our conversation of this morning, listed below are some of the questions we might ask Mr. Saroyan. These are mainly related to things that happened on the project.

1. Does rust "stain" which has been deposited from an unpainted area such as the top flange have a detrimental effect on the zinc primer and/or the finish coat?

2. The longitudinal girders on Unit WS-1 of the East Fremont showed very thin primer when checked less than 90 days after painting. Please explain, after considering the following factors:

    Paint Used - Enjay Rust-Ban 193 with Post Cure

    Type Const. - Longitudinal Trapezoidal Girders

    Quantity - 500 Tons with 60,000 sq. ft. of surface area

    Painted - January 1971

    Shipped - January and February 1971

    Checked - Paint thickness checks made in late March 1971

    Gage - Used Micro-Metrics Tooke gage

    No. Readings - Approximately 500 readings spaced throughout unit

    Paint Thickness - The interior of the box averaged out about 1 mil. The exterior about 2 mils.

    Rust - Numerous areas up to 4' in diameter showed discoloration from "pinhole" rusting in addition to the stain from the top flange.

We used this Unit as an example not because it was the worst, but because we had many readings, taken a relatively short time after painting.

3. The structural steel in Unit WE-1 of the West Fremont, which was primed with rust-ban 191 and "self cured" was still in good condition after 17 months of exposure. Please explain, after considering the following factors:

   Paint Used - Enjay Rust-Ban 191, self cured.

   Type Const. - Trapezoidal Girders & Box Beams

   Quantity - 600 tons with 70,000 sq. ft. of surface area

   Painted - July 1970

   Checked - Nov - Dec 1971

   Paint Thickness - Apparent loss during the above period of 0.8 mils.

   Rust - A few isolated spots of pinhole rusting

4. According to surveys by the Resident Engineer on the Fremont Superstructure, the primer there is not deteriorating at a rate faster than we would expect. This steel was painted in San Francisco with Mobil Zinc 1, self cured and has been stored in Portland since the fall of 1970 with a loss of approximately ½ mil. The Resident Engineer feels that the rusty areas you have observed were never properly coated. Could you give us some insight as far as this is concerned?

5. We have been told that the distance between the paint gun and the steel surface is very critical with inorganic zinc primers. Would you comment on this.

6. We would appreciate any comments you might have in regard to selection of a thickness gage for this type of work.

Charles Lobaugh
CHARLES LOBAUGH
Assistant Resident Engineer

CL:cw
cc: Ed Hardt
Walter Hart
John Howard
R. O. Cunningham

STATE OF ALASKA

WILLIAM A. EGAN, GOVERNOR

DEPARTMENT OF HIGHWAYS

OFFICE OF THE COMMISSIONER / P. O. BOX 1467 — JUNEAU 99801

June 26, 1972

Re: 30-2505

Cy. Hall Ward
6-29-72

Mr. A. E. Johnson
Assistant State Highway Engineer
Oregon State Highway Division
Highway Building
Salem, Oregon 97310

I am in receipt of your June 21, 1972, letter and the attached consultant's reports on zinc paint. This information is most interesting and generally concurs with our observations in that a loss of up to 0.5 mil thickness can be expected under certain conditions of application and curing. We are still in the process of evaluating the zinc system on two of our major structures and will furnish you our conclusions at a later date. Certainly our problems are quite similar to yours on the Fremont Bridge.

If you desire any specific information regarding our correction of the problem, please advise.

Very truly yours,

B. A. Campbell
Commissioner of Highways

R. D. Shumway

R. D. Shumway
State Construction Engineer

RECEIVED
JUN 29 1972
BRIDGE DIVISION

RECEIVED
JUN 28 1972
OFFICE OF
STATE HIGHWAY ENGINEER

FORM [illegible] (REV. [illegible])

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
June 19, 1972

SUBJECT: Fremont Bridge Superstructure
Contract No. 7276
Inorganic Zinc Paint

To: Walter J. Hart
Bridge Engineer
Salem

ATTENTION: Robert Ellison

Your letter of June 6, requested our comments regarding a submittal from Canron's attorney regarding the zinc paint controversy on the Fremont approaches.

Attached you will find a report with supporting data which has been received from Robert Cunningham, Resident Engineer on the subject project.

H. S. COULTER
Metropolitan Engineer

By:

Edward L. Hardt

EDWARD L. HARDT
Assistant Metropolitan Engineer

ELH:pb

Encs

cc: Jim Chidsey
John Howard
Robert Shotwell

Xerox to Linden
6-21-72 dh

NOTED
ALFRED A. REAR

RECEIVED
JUN 20 1972
BRIDGE DIVISION

NOTED
R. W. ELLISON

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

METROPOLITAN ENGINEER
RECEIVED
JUN 15 1972
☐ ME ☐ AME ☐ ANE ☑ MOE ☐ MDE ☐ MTE

Portland, Oregon
June 14, 1972

SUBJECT: Fremont Bridge Superstructure
Stadium Freeway
Contract No. 7276

Fremont Bridge Zinc Painting

To: H.S. Coulter
Metro Engineer

Attention: Ed Hardt
Asst. Metro Engr.

I am in receipt of the June 2, 1972 letter from Richard Franzke to Leonard Lindas concerning Fremont Bridge Zinc Painting. I would take exception to Mr. Franzke's statement that the zinc paint on the superstructure project is deteriorating in virtually the same manner as the zinc paint on the approach projects.

Paint thickness tests were performed beginning approx. 6 months after the frist material arrived and then tests were performed four times in the year following. Paint thickness were not found to be deteriorating during the inspection period. Therefore I cannot relate their problem to any conditions found on this project. To support my statements I have enclosed copies of reports of four separate inspections performed by R.O. Cunningham.

R.O. Cunningham
Resident Bridge Engineer

by

Dan Bacon

Dan Bacon
Asst. Res. Br. Engr.

DB:dgh

cc: file

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE
Salem, Oregon

DATE June 7, 1972

TO Walter J. Hart
Bridge Engineer

FROM R. W. Ellison
R. W. Ellison
Bridge Administration Engineer

SUBJECT

West Fremont Interchange
East Fremont Interchange
Fremont Bridge Main Span
Painting

Contracts for the subject projects were awarded as follows: West Fremont Interchange, April 29, 1969; Fremont Superstructure, July 3, 1969; and East Fremont Interchange, September 11, 1969.

The special provisions for all of these projects relative to painting new metal structures deleted our Standard Specifications for painting and substituted, therefore, the SSP Manual, Volume II, Second Edition, as modified by the special provisions.

At the time of award of the subject projects the 1967 printing of the SSP Manual, Volume II, Second Edition, was in use. This did not include the 1968 supplement, SSPC-PS 12.00-68T, Guide to Zinc-Rich Coating Systems. This supplement was issued separately in February of 1969 and was probably in effect at the time the subject contracts were awarded.

The special provisions listed as an applicable specification SSPC-PS 12-64P, which is approximately the same specification as the SSPC-PS 12.00-68T. Since the 12-64P specification is specifically mentioned, it appears that the 12.00-68T specification was not actually available or that we desired to use the 12-64P specification instead of the 12.00-68T specification.

The 12-64P specification is included in the specified SSP Manual as a specification under preparation for issuance and it does deal with Zinc-Rich Coating Systems.

It appears that the specifications for the subject projects did include a section on Zinc-Rich Coating Systems (SSPC-PS 12-64P). This section included a description of both organic and inorganic materials, a recommendation for cleaning steel, and other comments regarding the use of Zinc-Rich Systems.

RWE/ag
cc A. A. Rear
R. J. Wright

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Ore.
April 16, 1971

To: Memo to the Files

SUBJECT: Fremont Bridge Superstructure
Stadium Freeway
Contract No. 7276

Paint Thickness Measurements

On the above date R.O. Cunningham made some paint thickness readings on miscellaneous fabricated components for the subject project. Readings were taken at Swan Island with a Tooke Mark II coating inspection gauge. Thickness readings of the inorganic Zinc prime coat (Mobil Zinc 1) are as follows:

Piece		Mils
Span	13	11
"	"	6.5
"	10	10
"	7	5
"	11	6.5
"	12	3.5
"	3	7.5
"	"	13
"	5	3
"	2	2.5
"	6	6
"	6	3
"	1	7.5
"	"	3.5
"	35	4
"	"	4
"	38	3.5
"	41	5
"	"	3
"	37	3.5
"	"	4
"	36	5.5
"	45	6
"	"	7
"	46	7.5
"	"	4
"	42	5.5
"	"	9
"	47	5

Piece	Mils
FB 614FB1 Div7	4
FB 124FB1 Div 3	3.5
FB 614FB1 Div 7	4
FB 124FB1 Div3	4.5
FB " "	5
FB 614FB1 Div7	4
FB 510FB1 5B	3
"	3.5
FB 205FB1 Div2	4
FB 206FB1 Div2	3
"	5
FB 205 FB1 Div2	4
FB 206FB1 Div 2	4
FB 205FB1 Div2	4
FB 206 FB1 Div 2	3.5
FB 205FB1 Div2	3
FB 207FB1 Div2	3
FB 114FB1 Div1	3
"	3.5
FB 207FB1 Div2	3.5
FB 114FB1 Div1	3.5
FB 207FB1 Div2	4
FB 207FB1 Div2	3
FB 114 FB1 Div1	4
Hanger #606L29G29 Div7	3
Hanger #606L17G17A Div 6	3

RC Cunningham
R.C. Cunningham
Resident Bridge Engineer

cc: R.L. Schroeder
I.D. Merchant

Material

[illegible]
Ewin Island
D. Cunningham
Bacon

Location		Previously Read dip	2-9-72	4-2-71
238 ST4	D4	3.0	2.5	2.5
236 ST1	D4	3.0	2.5	2.5
234ST4	D4	5.0	4.0	4.5
250 ST4	D4	6.0	5.0	3.5
237ST4	D4	4.0	4.0	3.0
223 ST1	D2	6.5	3.5	3.0
516FB1	D58	5.5	3.0	3.5

" All Readings in Mils

Readings dated 2-9-72 were read on that date adjacent to readings taken on 4-2-71 and dated same.
See sheet with readings dated 4-2-71 for additional material. Further, comparisons not made because remainder of material installed in structure and inaccessible.

Dan Bacon
2-9-72

Ringer 4	238	Div 4	3.0	2.5
Ringer 1	223	Div 2	6.5	3.0
Ringer	136	Div 3	[illegible]	3.0

Swan Island D	Portly Cli

R.O. Cunningham
R. MacConnell
D.C. Street

Tooke Gage

Paint thickness

	Location	PLANT MEASURE	OS+D MEASURE
Ortho	Spur 16	3.7	3.2
		2.3	
		4.0	
Arch	Strut Tox 2 [illegible] PL [illegible]	2.5	3.0
Wire	2nd 120 LGA	4.0	4.0
Column	& 10	4.5	4.5
Stringer	220 Div 2	4.5	4.5
Stringer	221 Div 2	5	5
Stringer	230 Div 2	4	4.5
Stringer	1 134 Div 1	6	5
Stringer	2 140 Div 1	2.1	2.5
		4.0	2.5
tringer	3 138 Div 1	3.5	3.0
tringer	4 147 Div 1	5.5	
tringer	2 220 Div 4	6.0	3.0
ringer	4 230 Div 4	6.0	3.5
nger	4 234 Div 4	5.0	4.5
ringer	1 236 Div 4	3.0	2.5
ringer	4 237 Div 4	4.0	3.0
ringer	4 238 Div 4	3.0	2.5
ringer	1 223 Div 2	6.5	3.0
ringer	1 136 Div 3	4.0	

C

Location	Plant Measure	OSHD Measure
Stringer^{2} 139 DIV 3	3	3
Stringer^{4} 139 DIV 3	6	4
Stringer^{2} 139 DIV 3	4	3.5
Floor Beam^{1} 510 DIV 58	5½ 6	3.5

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Portland, Ore

Feb 22, 1971

SUBJECT: Paint gauge comparison

To: Memo to Files

On February 22, 1971, I accompanied R.O. Cunningham to Swan Island storage yard to make an inspection of paint thickness on fabricated material stored there. A Tooke paint inspection gauge was used and a comparison was made between mil readings by Pittsburgh Testing Labs in the fabrication plant and mil readings on the above date. A tabulation of the results is as follows:

Member	Mil readings by PTL	Mil readings on 2-22-71	Location
635 ST4 Div6	4	4	Exposed to weather
637 ST1 Div6	3 3/4	4	" " "
633 ST1 Div6	5	5	" " "
208 S47 Box	3½	3½	" " "
208 S47 Box	3½	4	Sheltered from weather
Span 24	3	5	" " "
Span 19	3½	3-3½	" " "
Span 13	5	4½	" " "
632 ST1 Div6	5	5	Exposed to weather
632 ST1 Div6	6	6	

Dan Bacon

Dan Bacon

cc: R. Schroeder
I. Merchant

7

Volume 2

SYSTEMS AND SPECIFICATIONS

Second Edition

Prepared by a Staff of Specialists
under the Editorship of

JOHN D. KEANE

Senior Fellow, Mellon Institute
Director of Research, Steel Structures Painting Council

STEEL STRUCTURES PAINTING COUNCIL
4400 FIFTH AVENUE • PITTSBURGH, PA. 15213

1972

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Table of Contents*

PAGE
FOREWORD . . . v

SECTION ONE: GENERAL
How to Use SSPC Specifications . . . 1
Table I General Painting Guide for Steel Structures . . . 5
Table II Special Painting . . . 11
Table III Indexed Painting Recommendations for Steel . . . 17
Table IV Painting of Non-Ferrous Building Materials . . . 30

SECTION TWO: SURFACE PREPARATION . . . 33
Surface Preparation Guide . . . 35
Surface Preparation Specifications
SSPC-Vis 1-67T No. 1 Pictorial Surface Preparation Standards for Painting Steel Surfaces . . . 45
[SSPC-Vis 2-68T] No. 2 *Standard Methods of Evaluating Degree of Rusting on Painted Steel Surfaces* . . . 46A

SSPC-SP 1-63 No. 1 Solvent Cleaning . . . 47
SSPC-SP 2-63 No. 2 Hand Tool Cleaning . . . 53
SSPC-SP 3-63 No. 3 Power Tool Cleaning . . . 57
SSPC-SP 4-63 No. 4 Flame Cleaning of New Steel . . . 59
SSPC-SP 5-63 No. 5 White Metal Blast Cleaning . . . 61
SSPC-SP 6-63 No. 6 Commercial Blast Cleaning . . . 65
SSPC-SP 7-63 No. 7 Brush-Off Blast Cleaning . . . 69
SSPC-SP 8-63 No. 8 Pickling . . . 73
** SSPC-SP 9-63T No. 9 Weathering Followed by Blast Cleaning . . . 75
SSPC-SP 10-63T No. 10 Near-White Blast Cleaning . . . 77

SECTION THREE: PRETREATMENT . . . 83
Pretreatment Guide . . . 85
Pretreatment Specifications . . . 89
SSPC-PT 1-64 Wetting Oil Treatment . . . 89
SSPC-PT 2-64 Cold Phosphate Surface Treatment . . . 91
Attached → SSPC-PT 3-64 Basic Zinc Chromate—Vinyl Butyral Washcoat . . . 95
SSPC-PT 4-64 Hot Phosphate Surface Treatment . . . 99

SECTION FOUR: PAINT APPLICATION . . . 101
Paint Application Guide . . . 103
SSPC-PA 1-64 Shop, Field and Maintenance Painting . . . 108

SECTION FIVE: PAINT SPECIFICATIONS . . . 123
Discussion of Paint Specifications . . . 125
SSPC Paint Specifications
SSPC-Paint 1-64T No. 1 Red Lead and Raw Linseed Oil Primer . . . 147

[*Please note 1968 additions in italics.]

** Discontinued January 1, 1971

(Continued)

listed as applicable spec.
in Special Provisions

PAGE

SSPC-PAINT 2-64 No. 2 RED LEAD, IRON OXIDE, RAW LINSEED OIL AND ALKYD PRIMER 151
* SSPC-PAINT 3-64T No. 3 RED LEAD, IRON OXIDE, AND FRACTIONATED LINSEED OIL PRIMER 155
SSPC-PAINT 4-64T No. 4 EXTENDED RED LEAD, RAW AND BODIED LINSEED OIL PRIMER 159
SSPC-PAINT 5-64T No. 5 ZINC DUST, ZINC OXIDE, AND PHENOLIC VARNISH PAINT 163
SSPC-PAINT 6-64T No. 6 RED LEAD, IRON OXIDE, AND PHENOLIC VARNISH PAINT 169
SSPC-PAINT 8-64 No. 8 ALUMINUM VINYL PAINT 175
SSPC-PAINT 9-64 No. 9 WHITE (OR COLORED) VINYL PAINT . . 179
SSPC-PAINT 11-64T No. 11 RED IRON OXIDE, ZINC CHROMATE, RAW LINSEED OIL AND ALKYD PRIMER . . 183
SSPC-PAINT 12-64 No. 12 COLD APPLIED ASPHALT MASTIC (EXTRA THICK FILM) 187
SSPC-PAINT 13-64 No. 13 RED OR BROWN ONE-COAT SHOP PAINT . . 193
SSPC-PAINT 14-64T No. 14 RED LEAD, IRON OXIDE & LINSEED OIL PRIMER 197
[SSPC-PAINT 15-68T] No. 15 *Steel Joist Shop Paint* 202A
[SSPC-PAINT 16-68T] No. 16 *Coal Tar Epoxy-Polyamide Black (or Dark Red) Paint* 202D
SSPC-PAINT 101-64T No. 101 ALUMINUM ALKYD PAINT 203
SSPC-PAINT 102-64 No. 102 BLACK ALKYD PAINT 209
SSPC-PAINT 103-64T No. 103 BLACK PHENOLIC PAINT 213
SSPC-PAINT 104-64 No. 104 WHITE OR TINTED ALKYD PAINT . . . 217
SSPC-PAINT 106-64 No. 106 BLACK VINYL PAINT 221
SSPC-PAINT 107-64T No. 107 RED LEAD, IRON OXIDE AND ALKYD INTERMEDIATE PAINT 225

SECTION SIX: PAINT SYSTEMS 229
COMMENTARY ON PAINT SYSTEMS 231
SSPC PAINT SYSTEM SPECIFICATIONS
SSPC-PS 1.00 THROUGH 1.06-64T OIL BASE SYSTEMS (FOR WEATHER EXPOSED WIRE-BRUSHED STEEL) 249
SSPC-PS 2.00 THROUGH 2.05-64T ALKYD PAINT SYSTEMS (FOR WEATHER EXPOSURE) 267
SSPC-PS 3.00-64T PHENOLIC PAINT SYSTEMS . . . 283
SSPC-PS 4.00 THROUGH 4.05-64T VINYL PAINT SYSTEMS (FOR EXPOSURE IN WATER IMMERSION, CONDENSATION, WEATHER OR CHEMICALS) 287
SSPC-PS 6.00 THROUGH 6.03-64T PAINT SYSTEMS FOR VESSELS 303
SSPC-PS 7.00 THROUGH 7.01-64T ONE-COAT SHOP PAINT SYSTEMS FOR STRUCTURAL STEEL 319
SSPC-PS 8.01-64T RUST PREVENTIVE COMPOUNDS (THICK FILM) 327
SSPC-PS 9.01-64T ASPHALT COATINGS (COLD-APPLIED MASTIC) 331
SSPC-PS 10.01 THROUGH 10.02-64T COAL TAR COATING SYSTEMS (HOT AND COLD, APPLIED) 333
[SSPC-PS 11.01-68T] *Coal Tar Epoxy-Polyamide Black (or Dark Red) Paint System* 341A
Attached → SSPC-PS 12-64P
[SSPC-PS 12.00-68T] *Guide to Zinc-Rich Coating Systems* . . 342A
SSPC-PS 13-64P EPOXY PAINT SYSTEM IN PREPARATION . 343
[SSPC-PS 14.01-68T] *Steel Joist Shop Paint System* . . . 344A
INDEX: 345

* Discontinued January 1, 1971

11

SSPC-PT 3-64
May 15, 1964

Steel Structures Painting Council Pretreatment Specifications

No. 3 Basic Zinc Chromate–Vinyl Butyral Washcoat

1. Scope

1.1 This specification covers the procedures required for the basic zinc chromate-vinyl butyral washcoat pretreatment of structural steel surfaces prior to painting.

2. Definition

2.1 Basic Zinc Chromate-Vinyl Butyral Washcoat (sometimes referred to as wash primer) is a pretreatment for metals which reacts with the metal and at the same time forms a protective vinyl film which contains an inhibitive pigment to help prevent rusting. This washcoat is supplied as two components which are mixed together just prior to use. The base contains an alcohol solution of polyvinyl butyral resin pigmented with basic zinc chromate. The diluent contains an alcohol solution of phosphoric acid which reacts with the vinyl resin, the pigment, and the steel.

2.2 It is intended that this pretreatment be used primarily on clean steel free of rust and scale or on clean galvanized metal; but it may be used, when specified, on steel with very slight amounts of rust.

3. Procedures

3.1 Basic Zinc Chromate-Vinyl Butyral Washcoat pretreatment shall consist of the following sequence of operations:

3.1.1 Specified surface preparations shall be completed first. Any dust or dirt shall be removed from the surface. Oil and grease shall be removed from the surface by methods provided in SSPC-SP 1-63, "Solvent Cleaning."

3.1.2 As soon as practicable and before rusting of the surface occurs, the surface shall be pretreated with material which meets the following specifications: MIL-P 15328B dated 5 May 1961, or Bureau of Ships Formula 117.

3.1.3 Four volumes of base shall be mixed with one volume of diluent as follows: First break up the pigment settled in the base with a wooden paddle, mechanical stirrer, or mixer, and mix to distribute the pigment evenly throughout the base. After the base is thoroughly mixed, slowly pour one volume of the diluent into four volumes of the base with constant agitation. Do *not* pour off the liquid which has separated from the pigment and then add the diluent to the settled pigment to aid mixing. Material which is not mixed properly may gel and be unfit for use. The washcoat base shall be mixed with the diluent in quantities which will be applied within six to eight hours after mixing. The pretreatment is most effective when freshly mixed. Storage periods in excess of eight hours may make the mixed material useless.

3.1.4 Apply the washcoat pretreatment by spraying or brushing. Spraying is generally the preferred method, but brushing may be desirable over rough or poorly prepared steel. Roller coating may be used only if specified. Paint brushes should be clean and dry, or wetted with alcoholic solvents. The washcoat should be strained before spraying. When spraying avoid excess air pressure or liquid pressure.

3.2 Apply to a dried film thickness of 0.3 to 0.5 mils which is usually obtained at a spreading rate of about 250 to 350 square feet per gallon. Note that at this thickness, which should not be exceeded, the base metal will show through the washcoat as evidenced by uneven coloring. This is the normal appearance; do not attempt to apply washcoat so as to obtain complete hiding.

3.3 When sprayed, the washcoat must be deposited on the surface wet; if dusting is encountered, move the gun closer to the surface; if already within six inches of the surface, decrease atomizing air pressure or increase the liquid pressure, or add thinner.

3.4 Where further thinning is desired isopro-

Ref 2

12

0

panol (99% grade) or butanol (normal butyl alcohol) or denatured ethanol should be used. At least 25% thinning is usually necessary to get a uniform application.

3.5 When spot treating, cover only spots free of old paint. Slight overlap of existing paints is generally not harmful provided adherence of the washcoat to the old paint is satisfactory and the old paint is not lifted.

3.6 Washcoat that cannot be used within a maximum of eight hours after mixing with diluent shall be discarded and not be used.

3.7 Use denatured ethyl or isopropyl alcohol to clean equipment.

3.8 Paint may be applied as soon as the washcoat is dry—usually one half to four hours except when otherwise authorized by the inspector.

3.9 This pretreatment should be applied over clean, dry steel; however, a slightly damp surface may be painted over provided adequate normal butyl alcohol is used in the thinner. If the surface is excessively wet, the vinyl butyral resin will be thrown out of solution and form a gel, or the dried film will turn white, become brittle and lack adhesion to the steel.

3.10 This pretreatment is not intended for use as a shop coat for steel and it should be coated with the prime coat of paint before exposure. However, it may provide temporary protection for normal outdoor exposures of several weeks provided it is not exposed to very humid conditions or water does not collect on its surface.

4. Safety Precautions

4.1 Washcoat primers contain highly volatile and flammable solvents. The usual safety precautions in handling flammable solvents should be observed. Toxic hazards to personnel must be kept in mind when working in closed spaces. The usual acid handling precautions to eyes and hands should be exercised in use of the acid component.

5. Inspection

5.1 All work under this specification shall be subject to inspection by the owner or his representative. All parts of the work shall be accessible to the inspector. The contractor shall correct such work as is found defective under the specifications. If the contractor does not agree with the inspector, the arbitration or settlement procedure established in the contract, if any, shall be followed. If no arbitration or settlement procedure is established, the procedure specified by the American Arbitration Association shall be used.

Appendix

A.1 SCOPE. The recommendations contained in this appendix are believed to represent current good practice, but are not to be considered as requirements of the specifications.

A.2 This pretreatment should not be considered as a coat of paint. It is intended for use over clean, dry, descaled steel; however, it does not work well over phosphate treated steel, and should not be used over paint or wetting oils. While it must be used on bare metal for best results, it has shown merit when used as a pretreatment over slightly rusted surfaces or tight mill scale when compared to conventional paint systems without the pretreatment over the same type of surface. Over loose mill scale, however, it may, under certain conditions, contribute to mill scale lifting.

A.3 This pretreatment may be used to bond conventional paints to galvanized surfaces or stainless steel. Solvent cleaning of such surfaces, even though apparently clean, is advisable before applying the pretreatment. Adhesion to some types of white rust preventives on galvanized steel has been poor.

A.4 Almost all paints will adhere well to this pretreatment; exceptions are certain types of vinyl paints and some lacquers; these coatings may require an intermediate or bonding coat. Paints containing alcohol or ketone solvents generally show best bonding.

A.5 This pretreatment may be used to inhibit rusting under cold-applied asphalt and coal tar coatings, or other coatings of low permeability and little or no rust inhibiting capacity.

A.6 Basic zinc chromate pigment in this pretreatment has a tendency to settle hard in the container; to avoid difficulty in dispersing settled pigment, fresh material should be used, and the oldest material always used first.

A.7 Detailed composition and physical properties of the washcoat are covered in the quoted specifications. An approximate summary of the composition is in adjacent column.

One volume of acid diluent is mixed with four volumes of pigmented base just prior to use. The mixed material should weigh about 7.7 pounds per gallon and should contain about 10.2 per cent by volume of nonvolatile matter, giving a theoretical coverage of 320 square feet per gallon at 0.5 mil thickness or 530 at 0.3 mils.

A.8 Drying time naturally varies with the drying conditions; however, the washcoat should normally dry to handle in 15 to 30 minutes, and dry for recoating in one half to one hour.

A.9 Butyl alcohol (butanol) may be added to reduce blushing during high humidity application or for slightly damp surfaces.

	% by wt.	*lb/100 gal.*
Pigment Base		
Polyvinyl butyral resin	9.2%	56
Basic zinc chromate	8.8	54
Magnesium silicate	1.3	8
Lampblack	0.1	0.6
Butyl alcohol, normal	20.5	125
* Isopropyl alcohol	57.7	353
Water	2.4	15
	100.0	612
Acid diluent		
85% Phosphoric acid	18.5%	28
Water (maximum)	16.5	25
* Isopropyl alcohol	65.0	99
	100.0	152

* Isopropyl alcohol and water in the pigment base may be replaced by ethyl alcohol O-E-760 Grade III (61.3 parts). In the acid component it may be replaced by 67 parts of ethyl alcohol.

14

SSPC-PS 12-64P
July 31, 1964

Steel Structures Painting Council Specifications
No. 12 Zinc-Rich Coating System in Preparation

1. Scope

1.1 This SSPC Paint System Specification is under preparation for issuance as indicated by the "P" following the year number in the code.

1.2 The specification covers a group of coatings, typified by high zinc dust content, formulated to provide hard, tough, abrasion resistant protection to steel with varying degrees of rust inhibition by virtue of the galvanic protection provided by the zinc. These coatings may be used under normal inland conditions, but are mainly intended for use under conditions of high humidity or marine atmospheric exposures, both exterior and interior, and for fresh water immersion. They may, by proper topcoating, be used in brackish and seawater immersion and for exposure to chemical (acid and alkali) fumes. These coatings require a white metal blast cleaned surface for best results and are usually applied in one coat 2 to 5 mil dry film thickness over the cleaned steel.

2. Description

2.1 High zinc content coatings comprise a number of different commercial types. These coatings may be composed of organic or inorganic vehicles. The *organic* vehicles used are chlorinated rubber, epoxies, polyesters, vinyls, urethanes, and other suitable vehicles usually with a zinc dust content of 85 to 95% by weight of the total non-volatile content.

Among the *inorganic* vehicles used are silicates, silicate esters, phosphates, silicones and modifications thereof usually with a zinc dust content upwards of 75% by weight of the total non-volatile content. The inorganic vehicles may be self-cured (converted or hardened to a state of water and solvent immobility), or post cured with a separate wash solution, usually mildly acidic in nature applied as an aftercoat. Many of the coatings are supplied with the zinc pigment packaged separately to be mixed at the time of application. Most coatings have a limited pot life which may be as low as six hours.

2.2 *For best results, these coatings should be used over white metal blast cleaned steel (SSPC-SP 5-63)*, although the degree of surface preparation required varies for specific coatings. Some coatings must be used only over the best surface preparation; others will tolerate somewhat lesser preparation; and still others, including many based on organic vehicles, will provide satisfactory performance under some conditions of mild service over no more than a good mechanically hand cleaned surface. Likewise, the degree of tolerance for high humidity (over 95% relative), damp surface prior to application, moisture after application, temperature during application and the drying or curing period, varies considerably from coating to coating. Therefore, adequate instructions from the manufacturer are essential and must be closely followed to obtain best performance from these coatings.

2.3 These coatings vary in application characteristics, but in general may be applied by brush or spray. Due to the galvanic action of the zinc, these coatings can give satisfactory performance under mildly corrosive conditions with one coat application as little as 2 mils thick. Most of the coatings can be self-coated or topcoated with epoxies, vinyls, etc., immediately or at a later date, for better performance under more severe exposures. Special precautions in cleaning the prime coat prior to self-coating or topcoating may be required.

Tie coats are necessary between some zinc rich coatings and some of the special topcoats. The importance of obtaining and following manufacturer's recommendations cannot be overemphasized.

Ref 6

15

2.4 Variations in properties of these coatings depend largely on the vehicle. All zinc-filled coatings, however, are unsuitable for acidic or alkaline service without overcoating. The *inorganic* coatings have outstanding ability to withstand exposure to solvents, oils and petroleum products. They are unaffected by aliphatics, aromatics, ketones, or alcohols. They resist dry chlorinated hydrocarbons, but are attacked by wet chlorinated solvents which release hydrochloric acid. They are very resistant to high humidity, splash and spray, but should be topcoated for prolonged continuous salt water exposure. Recommended top temperatures are 140° F. wet or 700° F. dry, although certain topcoats can raise the latter limit to 1000° F. Abrasion resistance on structural steel plate has been shown to be excellent in SSPC tests. Weathering of the inorganic coatings is considered outstanding as the coatings continue to cure during prolonged exposure.

Compared with the inorganics, the *organic* coatings are generally more tolerant of poor surface preparation, humidity and moisture at time of application. They tend to have better compatibility with topcoats and to be more flexible, but to be somewhat less tough and abrasion resistant than the inorganic materials. Their top temperature limits vary widely, although certain coatings can stand 212° F. wet and 400° F. dry. Resistance to solvents varies widely, depending on the vehicle used. As might be expected, their properties combine the properties of the vehicle with the abrasion resistance and galvanic action of the zinc.

2.5 The choice of the best coating for a specific end use must be made by a comparison of properties with the requirements of the service. Application and surface preparation problems may limit the choice. Flexibility of coating may be a factor. The degree of corrosion inhibition desired may be a prime consideration. High zinc content coatings are characterized by the abrasion resistance, toughness of film and galvanic protection afforded by the zinc. Many formulations exhibit high reactivity initially but develop a layer of zinc corrosion products that retard further zinc sacrifice until damage of the film exposes the substrate. However, the more active the zinc is in providing galvanic protection, the faster the coating will break down, unless protected by the zinc corrosion products or by the use of topcoats. Unless galvanic protection is the major factor, (in which case, other forms of cathodic or anodic protection should be considered) the better coatings from the standpoint of long-term durability must be formulated carefully to match the protection afforded by the zinc to that required by the substrate when there are small minor scratches or breaks in the coating.

3. Tentative Requirements

3.1 Coating History: The supplier shall furnish documented information with authenticated data detailing the past history and experience with the coating in terms of service life under specific conditions pertinent to the purchase inquiry. All details relative to surface preparation and application of coating shall be supplied. Sufficient identifiable characteristics other than trade or brand name or designation number or symbol shall be provided to permit laboratory test verification of coating identity. These characteristics shall include formulation information readily derivable in a laboratory, including the general nature of the vehicle, pigment, and volatile portions, the weight per gallon, and other procedures used for quality control during manufacture of the coating. A specific test to serve as a further specific identification such as rate of breakdown of the dried film by acid immersion or decomposition characteristics under increasing temperature shall be stipulated.

3.2 The coating shall have a minimum weight per gallon of 18 pounds.

3.3 The coating shall have a minimum zinc content of 75% by weight of the nonvolatile portion.

3.4 The dried coating (72 hours drying time) on a blast cleaned steel panel when scratched with the cut end of a common paper clip shall be abraded through to the steel only with considerable difficulty and shall not flake or show other signs of poor adhesion adjacent to the cut. When rubbed with the rounded end of the paper clip, the coating shall be burnished to the characteristic zinc appearance.

3.5 The coating shall be applied to a 3 inch wide by 5 inch high, 12 gauge white metal blast cleaned hot-rolled steel panel and dried for 48 hours with a centrally positioned inverted V cut to base metal, varying in width from one-half inch at

16

the bottom to zero at the top of the panel. When subjected to 96 hours salt spray in accordance with Method 6061 of Federal Test Method Standard No. 141, either 5 or 20% salt solution, this coated panel shall show no rust on the top one inch of the V cut or on the coated area, and must show moderate rust one inch from the bottom of the V.

4. Safety

Container labels and application instructions shall conform to the suggested wording of the Manufacturing Chemists Association publication, "Guide to Precautionary Labelling of Hazardous Chemicals."

5. Inspection

All work and materials supplied under this specification shall be subject to inspection by the owner or his representative.

The coating shall be tested to the extent agreed upon by the buyer and seller for conformance to the requirements of Section 3.

Appendix

A.1 In choice of product, the buyer is cautioned to consider the specific history, application characteristics, intended end use, and the assistance furnished by the supplier rather than price alone.

A.2 Pending adoption of a zinc rich specification, the SSPC will welcome comments on the use of this "in preparation" version.

A.3 Other Specifications: A limited number of public specifications are presently available. MIL-P-23236 is a performance specification requiring a lengthy succession of laboratory tests for qualification, followed by an 18-month field test. It is not limited to zinc-rich paints but also covers other classes of paint systems representing urethanes, epoxies and coal tar epoxies. None of the coating systems covered by MIL-P-23236 is suitable for use in fresh or potable water tanks except by conformation to additional requirements. Both two-package and one-package products are on the qualified product list. Another Government specification, MIL-P-26915A, is written in such a way that materials having a relatively low zinc content (70 to 80% of total solids) will qualify; this is usually insufficient for true sacrificial protection. This specification provides for several types of accelerated weathering and for an electrical resistance measurement. It does not require any particular vehicle, either organic or inorganic as long as it is "suitable for the intended purpose." Although the MIL-P-26915 specification requires the Type II (high purity) grade zinc dust, the less expensive Type I (standard) grade zinc dust formulas are suggested for all applications except on interiors or potable (drinking) water containers.

The third Government specification, MIL-P-21035, also specifies no particular vehicle, but does require a higher minimum zinc content (94% pigment x 97.5% zinc). It also requires a salt spray durability test. The Type I, regular quality zinc dust is specified, but it is recommended that the Type II (high purity), grade zinc dust be used for potable (drinking) water containers.

Descriptions of the zinc dust-zinc oxide type of specification (TT-P-641b, MIL-P-17545B, MIL-P-15145B, SSPC Paints 5 and 6) are given in SSPC Paint System 1.00, 2.00 and 3.00.

SSPC-PS 12.00-68T
Corrected Draft — June 1, 1968

STEEL STRUCTURES PAINTING COUNCIL

SPECIFICATION No. 12.00

GUIDE TO ZINC-RICH COATING SYSTEMS

1. SCOPE

1.1 This guide covers a group of coatings, typified by high zinc dust content, formulated to provide hard, tough, abrasion resistant protection to steel with varying degrees of rust inhibition by virtue of the galvanic protection provided by the zinc. These coatings may be used under normal inland conditions, but are mainly intended for use under conditions of high humidity or marine atmospheric exposures, both exterior and interior, and for fresh water immersion. They may, by proper topcoating, be used in brackish and sea-water immersion and for exposure to chemical (acid and alkali) fumes. These coatings normally require a near-white metal blast cleaned surface for best results and are usually applied in one coat 2 to 5 mil dry film thickness over the cleaned steel. Some are used as prefabrication primers or shop primers, often at lesser thicknesses, where they are applied to freshly blast cleaned steel plates and sections and are intended to protect the steel throughout the fabrication period until the final painting system can be applied to the finished structure.

2. DESCRIPTION

2.1 Zinc-rich coatings comprise a number of different commercial types. These coatings may be composed of organic or inorganic vehicles. The organic vehicles used are chlorinated rubber, styrene, epoxies, polyesters, vinyls, urethanes, silicones and other suitable vehicles usually with a zinc dust content of 80 to 95% by weight of the total non-volatile content.

Among the inorganic vehicles used are silicates, silicate esters, phosphates, and modifications thereof usually with a zinc dust content upwards of 75% by weight of the total non-volatile content. The inorganic paints may be self-cured (converted or hardened to a state of water and solvent insolubility), or post cured with a separate wash solution, usually mildly acidic in nature applied as an aftercoat.

Many of the coatings are supplied with the zinc pigment packaged separately to be mixed at the time of application. Most coatings have a limited pot life which may be as low as six hours with some formulations.

2.2 For best results, these coatings should be used over near-white metal blast cleaned steel (SSPC-SP 10-63), although the degree of surface preparation required varies for specific coatings. Some coatings must be used only over the best surface preparation; others will tolerate somewhat lesser preparation; and still others, including many based on organic vehicles, will provide satisfactory performance under some conditions of mild service over no more than a good mechanically hand cleaned surface. Likewise, the degree of tolerance for high humidity, damp surface prior to application, moisture after application, temperature during application and the drying or curing period, varies considerably from coating to coating. Therefore, adequate instructions from the manufacturer are essential and must be closely followed to obtain best performance from these coatings.

2.3 These coatings vary in application characteristics. All are preferably applied by spray, but may be brushed for small jobs, or to force into surface irregularities. Due to the galvanic action of the zinc, these coatings can give satisfactory performance under mildly corrosive conditions with one coat application as little as 2 mils thick. Most of the coatings can be self-coated or topcoated with epoxies, vinyls, etc., immediately or at a later date, for better performance under more severe exposures. Special precautions in cleaning the prime coat prior to selfcoating or topcoating may be required.

Tie coats are necessary between some zinc rich coatings and some of the special topcoats. The importance of obtaining and following manufacturer's recommendations cannot be overemphasized.

2.4 Variations in properties of these coatings depend largely on the vehicle. All zinc-filled coatings, however, are unsuitable for acidic or alkaline service without overcoating. The inorganic coatings have outstanding ability to withstand exposure to solvents, oils and most petroleum products. They are unaffected by aliphatics, aromatics, ketones, or alcohols. They resist dry chlorinated hydrocarbons, but are attacked by wet chlorinated solvents which release hydrochloric acid. They are very resistant to high humidity, splash and spray, but should be topcoated for prolonged continuous salt water exposure. Recommended top temperatures are 140°F wet or 700°F dry, although certain topcoats can raise

10

the latter limit to 1000°F. Abrasive resistance on structural steel plate has been shown to be excellent in SSPC tests. Weathering of the inorganic coatings is considered outstanding as the coatings continue to cure during prolonged exposure.

Compared with the inorganics, the organic coatings are generally more tolerant of variation in surface preparation quality. They tend to have better compatibility with topcoats and to be more flexible, but to be somewhat less tough and abrasion resistant than the inorganic materials. Their top temperature limits and resistance to solvents vary widely, depending on the vehicle used. As might be expected, their properties combine the properties of the vehicle with the abrasion resistance and galvanic action of the zinc.

2.5 The choice of the best coating for a specific end use must be made by a comparison of properties with the requirements of the service. Application and surface preparation problems may limit the choice. Flexibility of coating may be a factor. The degree of corrosion inhibition desired may be a prime consideration. Zinc-rich coatings are characterized by the abrasion resistance, toughness of film and galvanic protection afforded by the zinc. Many formulations exhibit high reactivity initially but develop a layer of zinc corrosion products that retards further zinc sacrifice until damage of the film exposes the substrate. However, the greater the galvanic demand on the zinc, the faster the coating will break down, unless protected by the zinc corrosion products or by the use of topcoats. Unless galvanic protection is the major factor, (in which case other forms of cathodic or anodic protection should be considered) the better coatings from the standpoint of long-term durability must be formulated carefully to match the protection afforded by the zinc to that required by the substrate.

3. TENTATIVE REQUIREMENTS

3.1 Coating History: Documented information with authenticated data detailing the past history and experience with the coating in terms of service life under specific conditions should be requested prior to purchase. All details relative to surface preparation and application of coating shall be supplied. Sufficient identifiable characteristics other than trade or brand name or designated number or symbol shall be provided to permit laboratory test verification of coating identity. These characteristics shall include formulation information readily derivable in a laboratory, including the general nature of the vehicle, pigment, and volatile portions, the weight per gallon, the percent solids by volume, and other procedures used for quality control during manufacture of the coating.

3.2 Inorganic coatings shall have a minimum zinc content of 75% by weight of the non-volatile portion. The corresponding value for organic coatings shall be 80%.

3.3 The dried coating (7 days drying time) on a blast cleaned steel panel when scratched with the cut end of a common paper clip shall be abraded through to the steel only with considerable difficulty and shall not flake or show other signs of poor adhesion adjacent to the cut. When rubbed with the rounded end of the paper clip, the coating shall be burnished to the characteristic zinc appearance.

3.4 The coating shall be applied and cured according to the manufacturer's recommendation to all surfaces, except as noted, of a 4-inch wide by 6-inch high, white metal blast cleaned hot-rolled steel panel. Before application to the face of the panel, a centrally positioned inverted V-shaped area one-half inch wide at the bottom of the panel and zero width at the top edge shall be masked to prevent application of coating to this area. After curing, the mask shall be removed and, if masking was done by means of tape, any traces of remaining adhesive shall be removed by washing with mineral spirits. When subjected to 96 hours of salt spray in accordance with Method 6061 of Federal Test Method Standard No. 141, with 5% salt solution, at least 10% of the uncoated area shall show red rusting that is no more than moderate in degree and at least 10% of the uncoated area shall be free of rust. In addition, no rusting shall be evident on the coated area.

4. SAFETY

Container labels and application instructions shall conform to the suggested wording of the Manufacturing Chemists Association publication, "Guide to Precautionary Labelling of Hazardous Chemicals."

5. INSPECTION

All work and materials supplied under this specification shall be subject to inspection by the buyer or his representative.

The coating shall be tested to the extent agreed upon by the buyer and seller for conformance to the requirements of Section 3.

APPENDIX

A.1 In choice of product, the buyer is cautioned to consider the specific history, application characteristics, mil-square feet coverage, intended end use, and the assistance furnished by the supplier rather than price alone.

A.2 Pending adoption of a zinc-rich specification, the SSPC will welcome comments on the use of this "in preparation" version.

A.3 Available Specifications: A limited number of public specifications are presently available. MIL-P-23236, for fuel and ballast tanks, is a performance specification requiring a lengthy succession of laboratory tests for qualification, followed by an 18-month field test. It is not limited to zinc-rich paints but also covers other classes of paint systems representing urethanes, epoxies and coal tar epoxies. The acceptable zinc-rich types are limited to inorganics and test conditions are confined to immersion. Both self-cured and post cured products are on the qualified product list.

Another Government specification, MIL-P-26915A, is written in such a way that materials having a relatively low zinc content (70 to 80% of total solids) will qualify; the lower values are usually insufficient for true sacrificial protection. This specification provides for several types of accelerated weathering and for an electrical resistance measurement. It does not require any particular vehicle, either organic or inorganic as long as it is "suitable for the intended purpose." Although the MIL-P-26915 specification requires the Type II (high purity), grade zinc dust, the less expensive Type I (standard) grade zinc dust formulas are suggested for all applications except on interiors of potable (drinking) water containers.

The third Government specification, MIL-P-21035, also specifies no particular vehicle, but does require a higher minimum zinc content (94% pigment x 97.5% zinc). It also requires a salt spray durability test. The Type I, regular quality zinc dust is specified, but it is recommended that the Type II (high purity), grade zinc dust be used for potable (drinking) water containers.

Other current zinc-rich specifications include MIL-P-46105, "Weld Through Zinc Rich" 25 March 1966 (U.S. Army Materiel Command), and Canadian Specifications 1-GP-171, "Coatings, Inorganic Zinc" and 1-GP-181, "Coating Zinc-Rich, Organic Ready-Mix."

TT-P-001046 (GSA-FSS) covers specifically a chlorinated rubber one-package ready mix zinc-rich with more than 88% zinc content by weight in the dry film. It is for renewal of galvanize, and primer over steel and galvanize.

MIL-P-38336 (USAF) covers self-curing inorganic zinc-riches, of types thinnable with water, alcohol, or ethylene glycol monoethyl ether (cellosolve).

California Highway Department Specification 66-G-55 is limited to 1) a lithium silicate and 2) an ethyl silicate, together with their control and use.

A.4 Paint prepared in accordance with this specification does not necessarily comply with Section K, Rule 66, Los Angeles County Air Pollution Control District or other air pollution control requirements.

If the formulation of a paint product is changed, in the solvent portion only with no change in the rest of the formulation, and the manufacturer can certify that when tested according to ASTM-D-822-60 (Accelerated Weathering) and for tensile strength and elongation by an Instron or similar tester, the original formulation and the proposed substitute give essentially the same results, he is justified then in certifying, pending the completion of service tests, that the substitution of one solvent for another has made no change in the service life of the material.

1859

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

NOTED
A. E. JOHNSON

November 2, 1972

Mr. Glen L. Green
Division Engineer
Federal Highway Administration
477 Cottage St. N. E.
Salem, Oregon 97308

RECEIVED
NOV 3 1972
OFFICE OF
A. E. JOHNSON
ASSISTANT STATE HIGHWAY ENGINEER

Dear Mr. Green:

East and West Fremont Intch.
Inorganic Zinc Paint System
East and West Fremont Intch. Sections
Contracts 7214, 7310, and 7311

In July of this year the legal counsel for Canron and the Highway Division jointly engaged the services of Mr. John Saroyan to comment on problems with the inorganic zinc primer paint system on the Fremont Interchanges. Mr. Saroyan was requested to comment on a series of paint related questions. A copy of the questions posed and Mr. Saroyan's answers is enclosed. This material is being sent to you for your review and comment.

Mr. Saroyan is a civilian employee of the U. S. Navy and an acknowledged expert on zinc paint and its use. His opinions must be considered to have significant weight in any discussion of this paint problem.

A meeting between the members of our staffs to discuss future action on this subject is in order. Subject to your concurrence the meeting is tentatively scheduled for November 14 at 1:30 p.m. in the Bridge Office of the Highway Division.

Additional prints of the pictures referred to in Mr. Saroyan's "Comments on Fremont Bridge Primer Problem Study of Color Photographs in Regards to Plates Section with Unusual Excess Salt Deposits" are not available. One set of prints is on file in the Bridge Office if you wish to view them.

Very truly yours,

George M. Baldwin
Administrator of Highways
By Walter J Hart
Walter J. Hart
Bridge Engineer

WJH/ag
Attachs.
cc A. E. Johnson R. Shotwell
L. I. Lindas J. Howard
H. S. Coulter

Tom

11 1 72

Did you advise the primes on east & west side of Fremont, not to pay Canson?

Canson has $2,000,000 due them from the primes for structural steel & Painting. The primes say you told them not to pay Canson. Linda

RECEIVED

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OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

7214

TO G. L. Green, Acting Division Engineer
~~R. E. Simpson, Division Engineer~~
Federal Highway Administration

DATE October 27, 1972

FROM ORIGINAL SIGNED BY
R. D. ASBURRY

L. H. Young
Programing Engineer

Federal-aid Project
No. I-405-8(20)303

SUBJECT Request Change Order Approval

Contract 7214 Price Agreement No. 12

Project West Fremont Interchange

Highway Stadium Freeway

County Multnomah

This agreement covers electrical revisions required of the contractor as shown on plan revisions submitted to him in March and April, 1970.

Copies of the engineer's letter of explanation and cost justification by the Bridge Engineer are attached.

A portion of the cost under this agreement is for purchase of excess material which is non-participating.

This work was tentatively recommended for approval by the Federal Highway Administration Division Bridge Engineer March 25, 1970.

Your approval as of March 25, 1970 is requested.

Attach.

BMW:dgk

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

RECEIVED STATE HWY ENGR
NOV 9 '72
REFER TO
FOR

DATE October 27, 1972

TO G. L. Green, Acting Division Engineer
~~R. E. Simpson, Division Engineer~~
Federal Highway Administration

NOTED
A. E. JOHNSON

11-10-72

FROM

L. H. Young
Programing Engineer

Federal-aid Project
No. I-405-8(20)303

SUBJECT Request Contract Acceptance

Contract 7214 Work Completed October 19, 1972

Project West Fremont Interchange

Highway Stadium Freeway

County Multnomah

We request that your office return a signed copy of this letter indicating acceptance or list conditions which would prevent your final acceptance of the contract work.

Acceptance Date October 19, 1972

Conditions not acceptable: A final inspection was made on 8/11/72 with a follow-up visit to the project on 10/26/72. Field work will be considered acceptable when glare shields are installed on sign illumination. The final inspection report outlines contractual and administrative problems in connection with this award. These items must be considered prior to final acceptance.

G. L. Green
Acting Division Engineer

FORM E-30 (REV. 10-69)

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
October 26, 1972

To: Walter Hart
Bridge Engineer
Salem

SUBJECT: John Saroyan's Report II
East & West Fremont Approaches

NOTED
A. E. JOHNSON

Your letter of October 5, transmitted the second installment of Mr. Saroyan's answers to questions posed relative to Fremont Interchange painting and requested our comments which follow.

Question B-1 and B-2 deal with (1) putting vinyl directly over zinc and (2) applying five mils of vinyl in one coat. This is an after-the-fact examination of the method of applying vinyl on the East and West Interchange projects. Other than hope that this vinyl does not fall off the steel, I find little to comment on these two answers except that since Saroyan recommends applying vinyl in multiple thin coats to allow the maximum solvent release, this would explain our problem of bubbling and pinholing with one coat of vinyl. Since much of the vinyl has not as yet been put on the Fremont Superstructure, perhaps we should investigate the adhesion of the Mobil vinyl to the zinc on the structure to determine if adhesion could be a problem.

Question B-3: no comment.

Question C. Saroyan goes through a chemical analysis to show what happens when the inorganic zinc is exposed to an atmosphere containing sulpher dioxide. The important point in respect to Portland's "corrosive atmosphere eating away the inorganic zinc" is the time involved. I am confused by Saroyan's answer to Question C with respect to the time for the chemical reaction because in the third from the last paragraph on page 2 he mentions the word slowly in connection with the washing action. Yet in his summary of this question, he uses the word quickly with respect to this process. I believe the time for the zinc to be eroded to the point of rusting is most critical. Enjay's recommendation for hydrogen sulphide content for Rust Ban 191 use is 300 parts per million. The sulpher dioxide concentration in the Portland atmosphere during the most critical period was 0.03 parts per million. Assuming the chemical reaction to the inorganic zinc of these two pollutents is on the same order and I would have to defer to a chemist for confirmation of this, it is hard to imagine how the low concentration of sulpher dioxide compared to that recommended for hydrogen sulphide by Enjay could completely break down the paint system in a matter of two or three months. I can only think that the answer lies in the fact that the inorganic zinc in Portland was not properly cured so that it could not withstand the attack of the sulpher dioxide.

Question D refers to an acceptable paint system and since it is not particularly germane to the inorganic zinc problem in Portland, I have no comment.

Question E: Since I don't understand the chemistry involved in Saroyan's answer to this question, I cannot completely comment on it. However, it appears as though he is talking about what might happen to the inorganic zinc if curing hasn't taken place. If this is the case, then the question of whether or not the inorganic zinc applied in Vancouver, B.C. was properly cured would have to be taken into account when analyzing this answer.

Question F and G: No comment.

Question H: I have no comment on Saroyan's remarks with respect to small test panels. I have observed many test panels at the Bonneville Power Administration's laboratory in Vancouver, Washington. They would be a good source of information if some was desired on this question.

Question I and J: No comment.

Question K deals with the rust "stain" which has been noticed on parts of the Fremont girders. I don't believe that this stain played a significant part in the breakdown of the inorganic zinc because I was never able to correlate the presence of the stain with the rust breakout on the girders. Perhaps Resident Engineers' Shotwell and Howard can comment more thoroughly on the correlation between stain and rust breakthrough.

Question L: Saroyan is assuming that the paint application process in Vancouver, B.C. was not deficient since "all factors were controlled, inspected and certified". The only uncontrolled variable in the whole sequence then could only be the environment in Portland and, therefore, he concludes that this must be the cause of the problem. I cannot necessarily accept this assumption as I have mentioned in my analysis of Saroyan's first set of answers since there is a strong question in my mind with respect to the proper curing of the inorganic zinc in Vancouver.

Question M: The answer to this question is the key to my thinking that the degree of cure of the inorganic zinc is more crucial than the environment in Portland. Saroyan is saying here that once the zinc is properly cured that the Portland environment has no effect on it. Therefore, when the girders are affected by the environment, it follows that they were not properly cured. This goes back to the application of the curing acid in the plant in Vancouver and my comments contained in my answer to Saroyan's first set of questions with respect to acid cure.

Question N: The answer to this question confirms my thoughts as expressed under Question M--namely, that the cure is more important than the environment. Saroyan states "once the inorganic zinc coating has cured and has demonstrated ability to self cure under those conditions, it probably has more resistence to agressive environmental action". I believe he is saying in this answer that the Mobil zinc applied in San Francisco was properly cured so that the Portland environment has little or no effect on it.

Question O: No comment.

Question P: We came to the same conclusion as Saroyan and we have equipped the field offices with the Elcometer gage. Incidentally, we had a session with Canron's paint consultant, CanTest, and calibrated our gages with theirs so that there would be no argument about paint thickness readings on the project.

Question Q: Saroyan says he believes the fundamental cause for the inorganic zinc paint failure is the aggressive atmosphere at the site. In previous answers he has shown how sulpher dioxide will react with the inorganic zinc and cause chemical breakdown. Chemically I am sure this is true. However, he has made no showing as to the time involved for the sulpher dioxide to breakdown three mils of properly cured inorganic zinc paint. He has shown in Question M that this aggressive atmosphere has no effect on properly cure zinc. Therefore, the key to the problem would seem to lie in whether or not the paint was properly cured rather than the environment in Portland.

H. S. COULTER
Metropolitan Engineer

By:

Edward L Hardt

EDWARD L. HARDT
Assistant Metropolitan Engineer

ELH:pb

cc: A. E. Johnson
R. E. Shotwell
R. O. Cunningham
John Howard
John Jenkins

RECEIVED
OCT 30 1972
OFFICE OF
A. E. JOHNSON
ASSISTANT STATE HIGHWAY ENGINEER

RECEIVED
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FOR FILING
7214

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE
Salem, Oregon

DATE October 5, 1972

TO Mr. H. S. Coulter
Metropolitan Engineer Attn. Mr. E. L. Hardt

FROM Walter J. Hart
Bridge Engineer

SUBJECT Fremont Bridge
Paint Problem

ORIGINAL SIGNED
WALTER J. HART

Attached is a copy of the second installment of Mr. Saroyan's answers to the questions posed relative to the painting on the Fremont interchanges.

Please review this material and advise this office of points of concurrence or disagreement with the conclusions reached by Mr. Saroyan.

WJH:dh
Attachment

cc A. E. Johnson
L. I. Lindas
R. O. Cunningham
R. E. Shotwell
J. D. Howard
Ed Rief
John Jenkins

NOTED
A. E. JOHNSON

RECEIVED
OCT 6 1972
OFFICE OF
A. E. JOHNSON
ASSISTANT STATE HIGHWAY ENGINEER

1320 Carl Ave.
Vallejo, Calif. 94590
Home Phone: 707-642-0387
Work: 707-646-3203
September 27, 1972

AIR MAIL

(1) Mr. Richard A. Franzke
Davies, Biggs, Strayer, Stoel and Boley
Twenty-third Floor 900 S. W. Fifth Ave.
Portland, Oregon 97204

(2) Mr. Leonard I. Lindas
Department of Justice
408 State Highway Building
Salem, Oregon 97310

Gentlemen:

Enclosed are the answers to Questions B through Q. Also included is the summary of time spent. The total bill is for $1,995.00 or $997.50 for each of you.

Mr. Terry Lawry informed me by phone that you needed to review the transparencies (color slides) you sent me. They (2) also are enclosed in the package for Mr. Richard Franzke.

I will be leaving for Washington, D.C. area on October 1st and plan to be back around Oct. 27th. From Oct. 1-13 I can be reached (leave message if not in) at Park Central Apt. Hotel in Wash. D.C. 202-393-4700. From 13-17 Oct. I will be at The Chrisopher Inn - Columbus, Ohio (also can contact me 16-17 Oct at Battelle Memorial Institute, Columbus.)

Trust that all is going well with both of you. Please let me know if further information is required. Best regards

Sincerely, /s/ John R. Saroyan

Summary of billing from Sept. 9, 1972, to Sept. 27, 1972, for professional consultant services given in connection with the Fremont Bridge coating problem.

	DATE	HOURS WORKED
1.	Sat Sept 9	5
2.	Sun Sept 10	5
3.	Mon Sept 11	1
4.	Wed Sept 13	3
5.	Thurs Sept 14	2
6.	Fri Sept 15	4
7.	Sat Sept 16	6
8.	Sun Sept 17	4
9.	Wed Sept 20	4
10.	Thurs Sept 21	2
11.	Fri Sept 22	3
12.	Sat Sept. 23	4
13.	Sun Sept 24	4
14.	Mon Sept 25	4
15.	Tues Sept 26	4
16.	Wed Sept 27	2
	Total	57 hrs.

at $35/hr. 35 x 57 = $1,995.00

each pay one-half or $ 997.50 each

submitted:
September 27, 1972

/s/ John R. Saroyan
John R. Saroyan

B. Question

Generally, comment on the advisability of:

1. Putting vinyl directly over zinc.

Answer

Before applying vinyl over the inorganic zinc coating, the surface must be free of any white deposits resulting particularly from post cure agents. The white deposits should be removed by high pressure fresh water rinse. Mechanical scrubbing should also be used if necessary.

For inorganic zinc coatings that have been approved under MIL-P-23236 or under Naval Ships Technical Manual, Chapter 9190, and properly washed of the white deposits, a thin coat, maximum 1 mil dry film, of red lead vinyl, Formula #119 (MIL - P - 15929) is applied as a tie coat.

Although the above practice has resulted in some satisfactory applications, where #119 has served as a tie coat, promoting good adhesion between the inorganic zinc primer and the topcoat or finish coat of vinyl, there have been some classical failures. Vast sheets of vinyl have peeled off the inorganic zinc primer.

An analysis of the conditions that promote good adhesion and those that induce and cause poor adhesion and peeling, when #119 is used as the tie coat, have been studied microscopically. The attached three color slides (photomicrographs) show the surface contour or profile of cured inorganic zinc coatings. The surface of Rust-Ban 191 as shown in the slide, is only slightly rough. The slide for Rust-Ban 190 shows a rather smooth surface. In contrast, the profile for the experimental B-3 inorganic zinc coating is very rough and porous.

Loss of adhesion of topcoats using vinyl #119 as a tie coat can be explained by identifying the surface profile of the inorganic zinc. If the surface is relatively smooth, adhesion must be derived from chemical bonding. Hence, with a tie coat such as #119, there is insufficient chemical adhesion. If the #119 is applied too thick, there develops a coating with high cohesive strength and in incidents of stress (thermal shock, etc.) is prone to exhibit poor adhesive strength. Also, if the #119 is applied thin, perhaps necessitating the addition of extra solvent, penetration of the #119 into the porous inorganic zinc can occur. Here, besides being functional as a tie-coat, the thinned #119 can serve as a seal coat. Incomplete contrast, when the inorganic zinc profile is rough, the surface per unit area is increased considerably and mechanical adhesion is promoted. This is a direct corollary to improving adhesion by abrasive blasting a surface.

The following experiments were conducted in regards to surface profile of inorganic zinc coatings top coated with vinyl #119 and immersed in brackish water for 3 months*:

*"Inorganic Zinc Coatings in the U. S. Navy" by John R. Saroyan, presented at the National Association of Corrosion Engineers, Western Region Conference, Phoenix, Arizona, 28 October 1964.

Test Panel	Inorganic Zinc Coating Surface Profile	Adhesion of #119 (To Inorganic Zinc)
1. Galvanized Steel	1. Very smooth	1. Poor adhesion, blistering and peeling.
2. Experimental Lab Inorganic Zinc #51	2. Quite smooth	2. Poor
3. Experimental Lab Inorganic Zinc #52	3. Rough	3. Good
4. Commercial Inorganic Zinc I.D. #53	4. Quite smooth	4. Poor
5. Commercial Inorganic Zinc I.D. #54	5. Some roughness	5. Fair
6. Commercial Inorganic Zinc I.D. #55	6. Quite smooth	6. Poor

Vinyl coatings can be applied directly on inorganic zinc coating, Rust-Ban 191 (or 193) provided the following conditions are met:

1. The surface is free of white salt deposits.
2. The surface is clean otherwise: No oil, grease, dirt, etc.
3. The surface is relatively rough and normally porous.
4. The vinyl is applied as a low viscosity material, solvent being added to get the low viscosity.
5. The applied vinyl be no more than 1 mil dry film.

See attachment #7 for additional information from Enjay literature for "Topcoating Inorganic Zincs."

B. Question

Generally, comment on the advisability of:

2. Using 5 mils of hi-build vinyl in one coat (viscosity over 125 KU)

Answer

The disguise of a single thick coat versus multiple coats as being more economical has been the theme of recent "sales pitches" as a cost-reduction devise through labor savings. This is still controversial matter now and in some governmental circles (Navy) such a criterion cannot be used when bidding on paints. Only what is in the container and not the way it is applied or any other alleged cost savings can be reflected in the bid price.

As discussed in the previous question, B-1, to obtain good adhesion of vinyl over inorganic zinc, a thin coat, a mil or less dry film, must be applied.

From attachment #8, under multiple coats, the following additional criteria are discussed:

1. Multiple coats, of varying colors, should be used to obtain complete, uniform coverage.
2. For coatings that contain solvent, multiple thin coats rather than fewer thicker coats permit the maximum release of solvent.

Summary

Generally, using 5 mils of hi-build vinyl in one coat on inorganic zinc is not advised. Loss of adhesion can result. Also, there can be uneven varying applications with runs and sags or orange peel roughness.

B. Question

Generally, comment on the advisability of:

3. Using a vinyl wash primer or some other seal coat.

Answer

Vinyl wash primer, formula 117 (see attachment #11) - MIL-P-15328- is a two package composition. One component is an alcohol solution of polyvinylbutyral resin in which basic zinc chromate is incorporated. (A little lampblack for tinting and other additives can be included.) The other component consists of an alcohol solution of phosphoric acid. At the time of use, the two components are mixed and used as a "wash" coating after about one-half hour incubation period.

Although several competing reactions take place within the mixed composition, some free phosphoric acid still remains. It is through this free phosphoric acid that certain amount of adhesion is developed when #117 is applied over steel or galvanizing (zinc).

Attachment #9 discloses that wash primer improves adhesion of coatings to zinc. Since inorganic zinc coating contains a very high percentage (85%) of zinc, it follows that wash primer should promote adhesion of coating to it. Also, the free phosphoric acid should serve as curing agent for inorganic zinc coatings such as Rust-ban 191 or 193.

Attachment #10 states that the acid component of #117 wash primer serves as a curing agent for Rust-ban 191 and that the separate application of curing solution is not required.

The following experiments* (partly reported under Question B-1, are included here in its entirety: (3 months immersion in brackish water)

	Test Panel	Inorganic Zinc Coating, Surface Profiles	Adhesion 117+119	Adhesion #119
1.	Galvanized Steel	1. Very smooth	1. Good	1. Poor adhesion Blistering and peeling.
2.	Experimental Lab Inorganic #51	2. Quite smooth	2. Good	2. Poor
3.	Exp. Lab #52	3. Rough	3. Good	3. Good
4.	Commercial Inorganic Zinc #53	4. Quite smooth	4. Good	4. Poor
5.	Commercial Inorganic Zinc #54	5. Some roughness	5. Good	5. Fair
6.	Commercial Inorganic Zinc #55	6. Quite smooth	6. Fair	6. Poor

*"Inorganic Zinc Coatings in the U.S.Navy" by John R. Saroyan. Presented at National Association of Corrosion Engineers, Western Region Conference, Phoenix, Arizona, 28 October 1964.

Summary

Wash primer, formula #117 (MIL-P-15328) may be used over Rust-ban 191 to promote adhesion, seal, cure and serve as a tie-coat for vinyl topcoats. No other curing solution need be applied. In fact, if a cure solution like Rust-ban 195 has been applied, then there would be some risk in applying #117 over this. With additional phosphoric acid from the #117, there could be loss of adhesion. Also, #117 as such, cannot remain as a topcoat since it will be subject to environmental attack. It needs to be topcoated with vinyl, epoxy, etc.

ATTACHMENT #9

galvanizing (MIL-Z-17871) is used to protect thin-gage steel plates for submarine superstructures and ship topside structures. Bilge surfaces and voids are galvanized to provide added corrosion protection. Hardware such as nuts, bolts, washers, brackets, and braces is galvanized to promote longer useful life.

For marine surfaces not immersed in water, zinc metallic coatings, such as galvanizing, may last for years. Zinc would provide long years of protection on the decks of ships if it were not for the fact that it becomes very smooth and hazardous, and nonslip topcoats are required for safety.

The zinc metallic coating can be considered a large zinc anode that wastes away in seawater to provide corrosion protection to bare-steel areas resulting from damage or "holiday" painting. Fouling protection, however, is only for short periods, depending upon the incidence of fouling and the amount and nature of the corrosion products formed on the surface. The most efficient use of a zinc coating underwater is to topcoat it with organic protective coatings, including antifouling paints. Adhesion to zinc can be a problem unless there has been prior chemical etching, weathering, or abrasive blasting. A successful approach in improving adhesion of coatings to zinc is the use of a wash primer, MIL-P-15328, formula 117.

Once galvanizing is depleted or damaged because of anodic action, burning, welding, or abrasive blasting, the repair of these areas is difficult. In some cases flame-sprayed zinc has been applied to areas where galvanizing was damaged or depleted. This is a slow and costly process, and it leaves a porous film that is very reactive to moisture. Effective touch-up painting of damaged galvanized areas is done with coatings containing zinc dust. The performance of such zinc coatings is so excellent that today they are often used as replacements for galvanizing.

Inorganic zinc coatings have been evaluated and placed on the qualified-products list of MIL-P-23236. Tests have shown that (1) a hydrolyzed tetraethyl orthosilicate zinc coating of 92.2 percent by volume of zinc in the dry film approaches but does not equal the cathodic-protection properties of a zinc anode; (2) inorganic zinc formulations are a little more effective than the organic formulations; and (3) postcured inorganic-silicate types are a little more effective than the self-cured types.

Zinc-rich coatings as a replacement for zinc anodes[65,67] must necessarily provide cathodic protection at a distance. However, as a substitute for galvanizing[67] they need not operate at any significant distance.

Cadmium Coatings. Cadmium, which is similar to zinc in chemical properties, is electronegative to iron or steel[68] and will cathodically protect such surfaces in a galvanic cell. The potential difference between cadmium and iron is less than that for zinc and iron. Therefore cadmium does not protect as large an area of exposed iron as does zinc. Cadmium darkens less than zinc and does not form bulky white corrosion products as readily. It can be more readily soldered without the use of corrosive fluxes. Unlike zinc, which is applied to steel successfully by hot dipping, cadmium coatings are applied by electroplating.

Steel plates coated with 0.0002 and 0.0005 in. of cadmium and zinc were exposed at the severe marine atmosphere at Kure Beach, North Carolina, and in an industrial-marine atmosphere in New York.[69] The results of the test showed that zinc-coated specimens were slightly better in New York than the cadmium specimens, but the cadmium was found to be several times more effective in protecting steel than zinc at Kure Beach. Salt-fog tests have shown cadmium to be more effective than zinc.[69] In salt-fog tests one test piece of two anodized aluminum castings bolted together with zinc-coated steel bolts and washers was subjected to the salt fog for 240 hr. The anodizing did not prevent general macrocorrosion on the surface of the aluminum panels. The zinc-coated washers and bolts showed corrosion. Also, there was anodic corrosion under the washer area on the aluminum panel. Apparently the steel of the bolt was exposed and formed the active steel-aluminum galvanic cell.

Another test unit consisted of two anodized aluminum castings bolted together with cadmium-coated steel bolts and washers. This unit was also subjected to the salt fog for 240 hr. The cadmium plating offered more protection to the aluminum than the zinc in the previous test specimen. Furthermore, there was only a slight amount of corrosion of the cadmium on the bolts and washers, furnishing good protection at the

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With RUST-BAN 190, curing treatment may normally be applied within 1-2 hours after the film has dried (an even gray color is reached), at which

vinyl wash primers, however, are somew
unsuitable for other than polyvinyl chloride to
systems. Enjay Wash Primers, RUST-BAN VY
(yellow, Y-1), for example, should age for 5

Attachment #10

not recommended for use in contact with strong acids or alkalis (reagents with pH values below 6.5 or above 10.0), chlorinated hydrocarbons, and crude oils with acid numbers above 0.4 or hydrogen sulfide content above 300 ppm.

More detailed information can be obtained from your Enjay representative.

Mixing and application procedure

The service life of Rust-Ban 186, 188, 190 or 191 is largely dependent on the care with which each is applied, a matter fully covered in the instructions which accompany each package. These coatings are two-part systems packaged in one-gallon or five-gallon containers. One container marked "A Liquid" contains the liquid vehicle; the other, marked "B Powder" contains zinc dust. The powder is thoroughly mixed *into* the liquid. At 70-90°F (21-32°C) the resulting mixed product has a pot life of 8-12 hours for Rust-Ban 188, 24 hours for Rust-Ban 190 and 120 hours (5 days) for Rust-Ban 186 and 191.

The prepared coating material should be sprayed only with the proper recommended application equipment (Refer to Service Data Section—"Spray Equipment for use with Rust-Ban Protective Coatings."). The coating should be applied to a surface which has been freshly blasted to near-white (SSPC-SP10-63) (S.S. Sa2½) or white metal (SSPC-SP5-63) (S.S. Sa3), depending on the ultimate exposure. For example, Enjay recommends a near-white blast for mild abrasion, general atmospheric exposures and where economy is a prime consideration. For severe atmospheric abrasion or immersion exposures, however, a white metal blast is recommended.

Rust-Ban 188 (self-curing), under normal conditions (50-95°F, 10-35°C air temperature — 50-90% relative humidity), will reach a water insensitive state within 20 minutes and may be topcoated in 12-16 hours.

With Rust-Ban 190, curing treatment may normally be applied within 1-2 hours after the film has dried (an even gray color is reached), at which time, it is sprayed with a coat of curing solution, Rust-Ban 195. After a curing period of 18-24 hours, the surface will have developed full resistance to the weather. Once the salts, formed by the curing reaction, and excess curing solution have been removed, Rust-Ban 190 can be topcoated or placed in service. (The salts and excess curing solution are usually removed by high pressure water, sometimes supplemented by scrubbing.)

Rust-Ban 186 and 191 — being self-curing — require no additional treatment. Under normal conditions (50-95°F, 10-35°C air temperature — 50-90% relative humidity), Rust-Ban 186 and 191 are water insensitive within one hour and can be placed in service or topcoated in 8-12 hours. Outside of these limits, curing may be faster or slower, depending on which extremity of weather prevails. Adverse weather conditions require special precautions outlined in the application instructions. Also, specific drying schedules for most weather conditions are outlined in the application instructions.

Post-curing of RUST-BAN 191 (or RUST-BAN 186)

While Rust-Ban 191 is certainly a self-curing product, it has the unique advantage that it can be rapidly cured with an accelerator. Either way, post- or self-cured, the significant chemical and physical properties of the cured Rust-Ban 191 film are essentially the same. When it is desirable to accelerate the self-curing properties of Rust-Ban 191, Rust-Ban 195 curing solution provides superior results and should be used.

One exception to this is when a polyvinyl chloride coating system (including a vinyl wash primer) is to be used in topcoating Rust-Ban 191. In this type of system, the acid component of the vinyl wash primer accelerates the cure of the Rust-Ban 191 sufficiently, so that the separate application of a curing solution is not required.

Vinyl wash primers, however, are sometimes unsuitable for other than polyvinyl chloride topcoat systems. Enjay Wash Primers, Rust-Ban VY 6528 (yellow, Y-1), for example, should age for 5 days

HANDBOOK: OCEAN AND UNDERWATER ENGINEERING
McGRAW-HILL-MYERS

ATTACHMENT #11
PAGE 1

Coating thicknesses of at least two, and preferably three, times the average peak height are recommended for corrosion protection. Table 7-17 illustrates performance of an alkyd metal primer related to profile and film thickness after exposures in a salt-fog cabinet. The test results show that thin films leave peaks unprotected and prone to early pinpoint rusting.

Surface Pretreatment

Some metals react chemically with paint vehicles to produce compounds that may either improve or reduce coating adhesion. For example, it has been noted that a paint made from the copolymer resin of vinylidene chloride and acrylonitrile (Saran) will react with iron. This reaction may be necessary for promoting adhesion. However, if a coat of formula 117 wash primer (MIL-P-15328), a known adhesion promoter, is first applied over the metal, then the Saran coating peels off easily. Decomposition products that react with the metal surface, one of which has been identified as acetic acid, tend to decrease adhesion. Such undesirable by-products result from the presence of moisture and the oxidation process during the drying of certain paint vehicles. In order to reduce such paint-metal reactions, and also to provide for rust inhibition and protect against rust creeping under a coating film, metal pretreatments are used to convert the reactive metal surface to a chemically inert and adherent compound. These new stable surfaces usually are readily wetted by most organic coatings, with resulting better adhesion.

Phosphate Coatings. Pickled or acid-cleaned steel plates usually require a rust-inhibiting dip to remove excess acid and to provide a phosphate-chromate stable surface. A good inhibitive solution is as given above under Removal of Mill Scale and Rust.

Most of the proprietary phosphating solutions are complex but usually contain a phosphoric acid solution and a metal phosphate, such as zinc phosphate, manganese phosphate, or manganese dihydrogen phosphate. The phosphate layer or film formed on the metal surface consists of crystalline phosphate salts of the metal being treated or of the metal ions added to the phosphating solution. Besides the formulation given above, a common preparation for treating iron or steel[33] consists of primary zinc phosphate in phosphoric acid solution with heat and agitation. A tertiary insoluble zinc phosphate salt is formed, which makes up a good part of the phosphate protective layer; a small amount of secondary iron phosphate is also formed. Initially the solution is at nearly the saturation point of the tertiary zinc phosphate. When a piece of steel is immersed in the solution, the phosphoric acid reacts with the iron, liberating hydrogen gas. As the free acid is used up and the pH increases, the solubility of the tertiary zinc phosphate is exceeded, and deposition on the steel begins. Since the phosphating is slow because of cathodic polarization, accelerators or depolarizers such as nitrates, nitrites, and chlorates are used.

Shop Coat. After a steel plate is mechanically or chemically cleaned and treated, a shop coat, or construction primer, is applied to protect the clean metal surface during fabrication. A version of this coating is a weld-through primer which permits welding without removal of this coating.

One of the common primers used on mild-steel plates is an alkyd-zinc chromate coating (formula 84/47 conforming to specification TT-P-645). During and after construction, burned or weld areas are touched up with the same primer to protect the bare steel from premature corrosion. In many areas the construction primer is retained and topcoats are applied over it. In critical areas like shipbottoms, or in tanks, where definite coating compatibility is required, the construction primer is blasted off along with any phosphate-chromate pickling layer, so that epoxy or other chemical-type coatings can be applied. One recent requirement for a weld-through primer is that it permit welding through and need not be removed prior to application of subsequent coatings. Also, it should be compatible with subsequent topcoats, including epoxy, coal-tar epoxy, polyurethane, vinyls, silicones, and chlorinated alkyds. A suitable weld-through primer is a modified prepolymerized epoxy.

✓ **Wash Primer.** The so-called "wash primer" has come into widespread use for many applications as a pretreatment for metal, plastic, concrete, wood, etc., to promote coating adhesion. It is made from a phosphoric acid, isopropyl alcohol, polyvinyl butyral resin, and inhibitive chromate pigment.

The present formula 117 pretreatment coating covered under MIL-P-15328B is being used internationally for a variety of surfaces to promote adhesion, to make the surface passive, and to prevent premature corrosion; for example on shipbottom sand-blasted steel; on stainless-steel sonar domes, replacing the usual nitric acid treatment for passivating the surface; on wood hulls to seal the pores and promote adhesion of shipbottom vinyl paints; on concrete to neutralize alkalinity and to seal and promote adhesion of top coats; on aluminum surfaces to promote adhesion where the standard process to treat aluminum for applying a chromium-conversion coating is not utilized; on galvanizing; and on magnesium surfaces to improve adhesion of coatings. Usually the phosphoric acid diluent that is added to the base material is reduced to one-half to one-third the standard total amount for magnesium.

Special Pretreatment for Aluminum. In addition to the wash-primer treatment, chromate chemical processes are widely used to produce stable surface compounds on aluminum and to improve coating adhesion. After the aluminum surface is cleaned mechanically, chemically, or with solvents, it is treated with a detergent cleaner to remove any greasy materials. Then any oxide formed is removed with a mild alkaline cleaner; this may leave a black smut, but it can be removed with a deoxidizer such as Deoxidizer No. 1.* The part is then treated with a suitable chromium-conversion coating. Subjecting the part to an acidulated hot-water rinse ensures the best type of conversion coating. The resulting color should be irridescent golden to gold.

Besides the chromium type of surface treatment, there are oxide types (anodizing) produced electrolytically which are effective in promoting coating adhesion and which serve as a resistant layer.

Special Pretreatment for Magnesium. The normal film that forms in air on magnesium is not an effective barrier against a moist atmosphere. Certain anodic treatments, such as Dow No. 17† followed by a wash primer (117, MIL-P-15328B), a zinc chromate–vinyl primer (120, MIL-P-15930B), and a topcoat of vinyl alkyd (122-27, MIL-P-15936B), give good protection.

Most of the treatments for magnesium are immersion or anodic treatments in baths which contain dichromates or mixtures and oxyacid salts such as sulfates, nitrates, or phosphates. Several treatments are given in MIL-M-3171B.

Anticorrosive Coatings

Anticorrosive, or barrier, coats are the real workhorses of a coating system. They usually form the bulk of the film thickness that is necessary to serve as the wall between the prepared or treated surface, with or without primers, and the topcoats which are in direct contact with the destructive marine environment. Although such coatings may include rust-inhibitive pigments when used for metals, and may even contain such pigments throughout the entire coating system, as in lead silicochromate, the burden of the protection rests upon this barrier. It has been observed that an improvement in the anticorrosive coating in a shipbottom paint system can definitely improve the antifouling performance.

The coating must keep the moisture from penetrating through to the marine surface. If moisture gets through, then corrosion starts: if oxygen is present and passes through the film, this corrosion action is accelerated. Water-soluble inhibitor chromate pigments in the primer do help to reduce or retard the corrosion action by supplying a pool of chromate ions. This pool can be located under a blister where corrosion is arrested, even in the presence of chloride ions.

The penetration of moisture can be stopped successfully, for example, by 0.006 to 0.01 in. of nonporous, dense organic coating films. An epoxy or vinyl-resin base coating 0.008 to 0.01 in. thick can prevent corrosion of a coated piece of immersed steel for several years. Other less permeable coatings, such as dense Saran (copolymer of vinylidene chloride and acrylonitrile), can prevent water penetration even if they are only 0.002 in. thick.

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* Amchem Products, Inc., Niles, Calif.

† Dow Chemical Company, Midland, Mich.

C. Question

Realizing that a phosphoric acid curing agent was used, and that the members were barged from Vancouver to Portland, how soluble would the zinc be when exposed to atmosphere containing 30-50 parts per billion SO_2?

Answer

In order to demonstrate certain calculations, it is necessary to establish standard units for the amounts of SO_2 we are concerned with.

The 30-50 parts per billion is preferably converted to units of micrograms (1-millionth of a gram) per cubic meter ($\mu g/m^3$).

The following are the calculations:

a. 30-50 parts per billion = .03 - .05 parts per million (PPM).

Reviewing the sulfur dioxide charts on pages 2 and 3 of attachment #12, we can establish the relationship between $\mu g/m^3$ (chart on page 3) and PPM (chart on page 2). This relationship directly from the charts is: 0.20 PPM is equal to 500 $\mu g/m^3$. To convert PPM to to $\mu g/m^3$ you multiply the PPM by a factor of 2500 ($\frac{500}{.2}$ = 2500).

b. Check: .02 PPM x 2500 = 500 $\mu g/m^3$

The above 30-50 parts per billion or .03 - .05 parts per million is equal to 2500 x (.03- .05) or 75-125 $\mu g/m^3$.

To answer the question as to how soluble the zinc would be exposed to an atmosphere containing 75-125 $\mu g/m^3$ (30-50 parts per billion) of SO_2 we establish the following:

1. One gallon of Rust-ban 191 solids weighs about 50 pounds.
2. This amount (a solid gallon) covers approximately 1600 square feet of surface, 1 Mil (dry film) thick.
3. The weight of Rust-ban 191, one mil thick, per sq. ft. would be 0.0313 pounds (50/1600) or this calculates to 0.1 gram per sq. inch.
4. This amount of Rust-ban 191 contains 0.085 grams of zinc (85% by wt.).
5. The following chemical reactions show the formation of sulfuric acid on a mol or molecular basis:

a.	SO_2	+	H_2O	=	H_2SO_3 (sulfurous acid)
	1 Mol		1 Mol		1 Mol
	64 grams		18 grams		82 grams

*b.	H_2SO_3	+	$1/2\ O_2$	=	H_2SO_4 (sulfuric acid)
	1 Mol		1/2 Mol		1 Mol
	82 grams		16 grams		98 grams

c.	H_2SO_4	+	$Z\mu$	=	$Z\mu SO_4$	=	$H_2 \uparrow$ (Hydrogen Gas)
	1 Mol		1 Mol		1 Mol		1 Mol
	98 grams		65 grams		161 grams		2 grams

* Also written as: $3H_2SO_3 = 2H_2SO_4 + S + H_2O$

It is pointed out that about equal weights of sulfur dioxide (SO_2 : Mol WT = 64) and zinc metal (Mol WT - 65). In this instance, 1 Mol of sulfur dioxide (64 grams) ends up by reacting with 1 Mol of zinc (65 grams) through the sulfuric acid that is formed. Another way to look at this is that 32 pounds of sulfur "burned" in a process will produce 64 pounds of SO_2 which will react (deteriorate) with 65 pounds of zinc metal in the Rust-ban coating.

To react with the 0.085 grams (85,000 micrograms) of zinc, (1 Mil, 1 square inch of Rust-ban 191 film) it would require the following amount of SO_2:

d. For $75 \mu g/m^3$ (SO_2)

$85/75 \times 1000 = 1300$ cubic meters of SO_2

e. For $125\ \mu g/m^3$ (SO_2)

$85/125 \times 1000 = 600$ cubic meters of SO_2

From the above calculations, it requires 1300 cubic meters of $75\ \mu g/m^3$ SO_2 and 600 cubic meters of $125\ \mu g/m^3$ SO_2 to completely react with the zinc in 1 sq. inch of Rust-ban 191, 1 mil thick (dry film).

As indicated in the chemical reaction of "c" above, the zinc is converted to very water soluble zinc sulfate salt.

With a continuous supply of SO_2 at the amounts present in the Portland, Oregon atmosphere (and specifically at the Fremont Bridge site) it is simply a matter of time (if not further protected with topcoats) before the inorganic zinc coating slowly "washes away". These amounts of film loss can greatly exceed the general criterion of 1/2 - 1 mil loss or reduction of film thickness of inorganic zinc per year under direct and continuous water exposure (sea and fresh water). See attachment #13, page 2, item 6.

Attachment #13 page 1, also points out the suitability criteria for Rust-ban 191 as follows:

"Strongly acidic or alkaline products will attack Rust-ban inorganic zinc coatings. Acceptable limitations for normal service conditions are:

6.5 to 10.0 pH

Less than 0.4 neutralization number

Less than 300 PPM hydrogen sulfide content. (Hydrogen sulfide, like SO_2, will also react with zinc.)

Summary

It is apparent, from the above information, that a content of SO_2 in the atmosphere can quickly dissolve zinc in the inorganic zinc coating. The sulfurous acid, oxidized to sulfuric, reacts to form zinc sulfate. With condensations of moisture and rains, the very soluble zinc sulfate salts wash away, exposing new layers of inorganic zinc coating for SO_2 attack. Since the coating (inorganic zinc) is 85% by weight zinc, the film is also destroyed as the SO_2 "eats" away at the zinc. Also the SO_2 can react with lithium silicate or any of the lithium compounds, again forming soluble sulfates.

ATTACHMENT #12

DATA SHEET

RAINFALL & AIR POLLUTION - PORTLAND, OREGON

RAINFALL	WATER EQUIVALENT	SULPHUR DIOXIDE (mcgms/cu meter)
October 1970	2.85	13.1
November 1970	5.72	52.4
December 1970	7.49	70.7
January 1971	7.09	78.6
February 1971	3.36	60.0
March 1971	4 97 (1.37")	48.6
April 1971	2.72	41.0
May 1971	1.00	19 0
June 19	1.76	21.6

Rainfa verages

November, December, January	6.77"
ber to March 15	4.84"
h 16 to June 30	1.96"

- and Airport

Sulphur oxide - Broadway & Burnside

Source formation - Sulphur Dioxide

Air Quality Control Division
Department of Environmental Control
Oregon State
1400 S.W. 5th Avenue
Portland, Oregon 97201

Contact Mr. Glen O'Dell

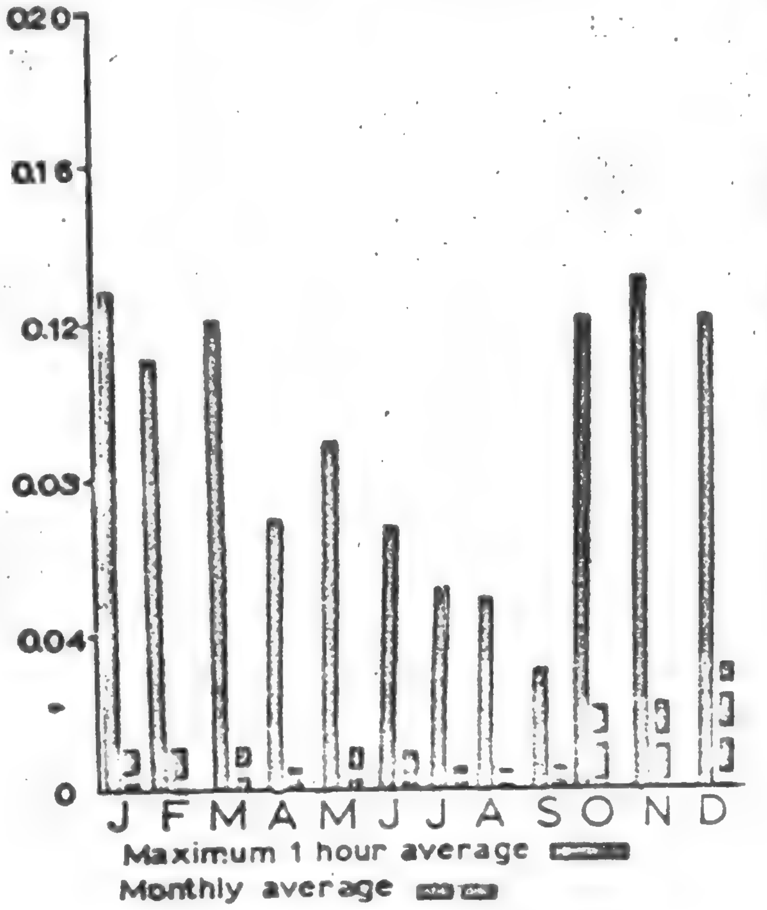
- 56 u

ainfall

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
Environmental Data Service

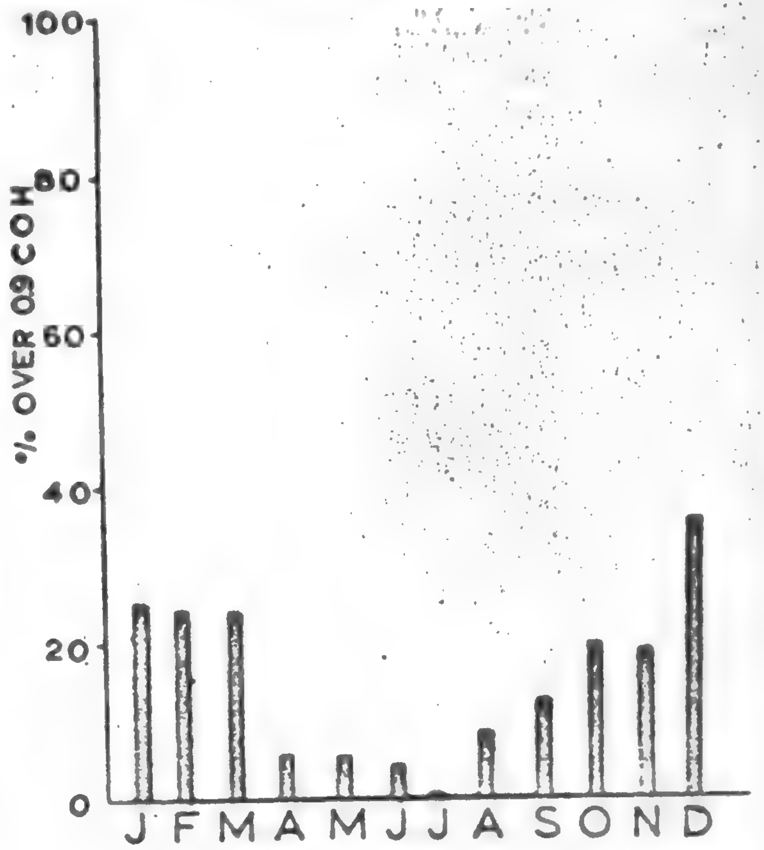
CONTINUOUS AIR MONITORING STATION
718 W. BURNSIDE
1970

Sulfur Dioxide

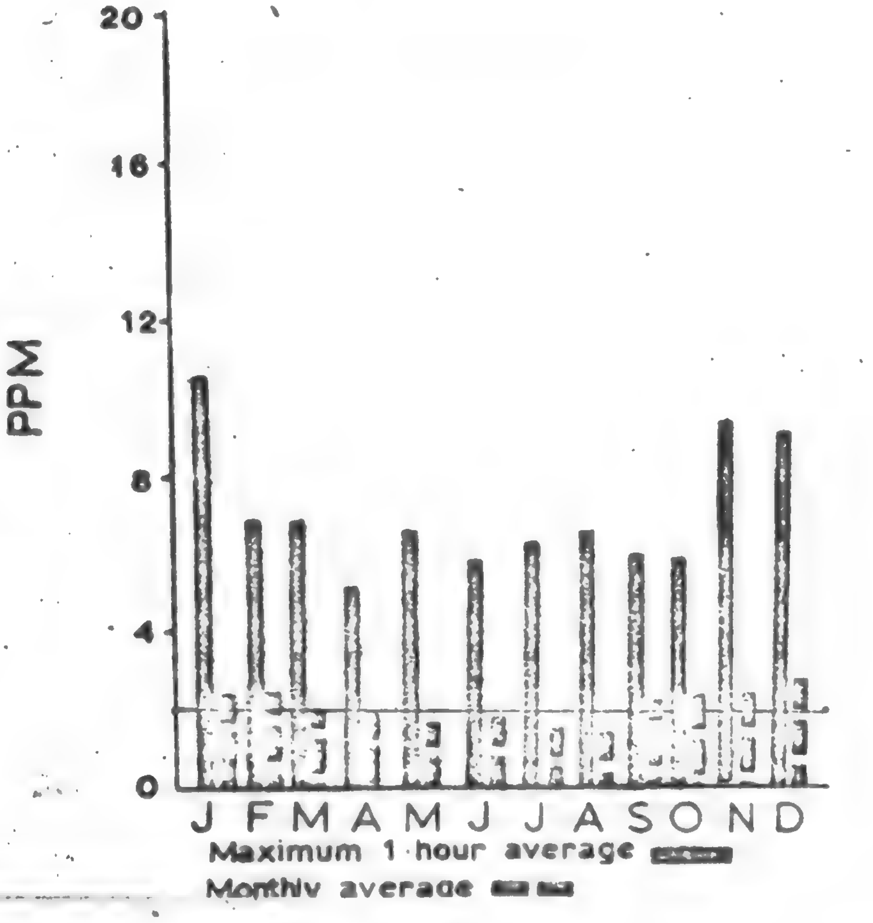


× 2618 = µg/m³

Soiling Index

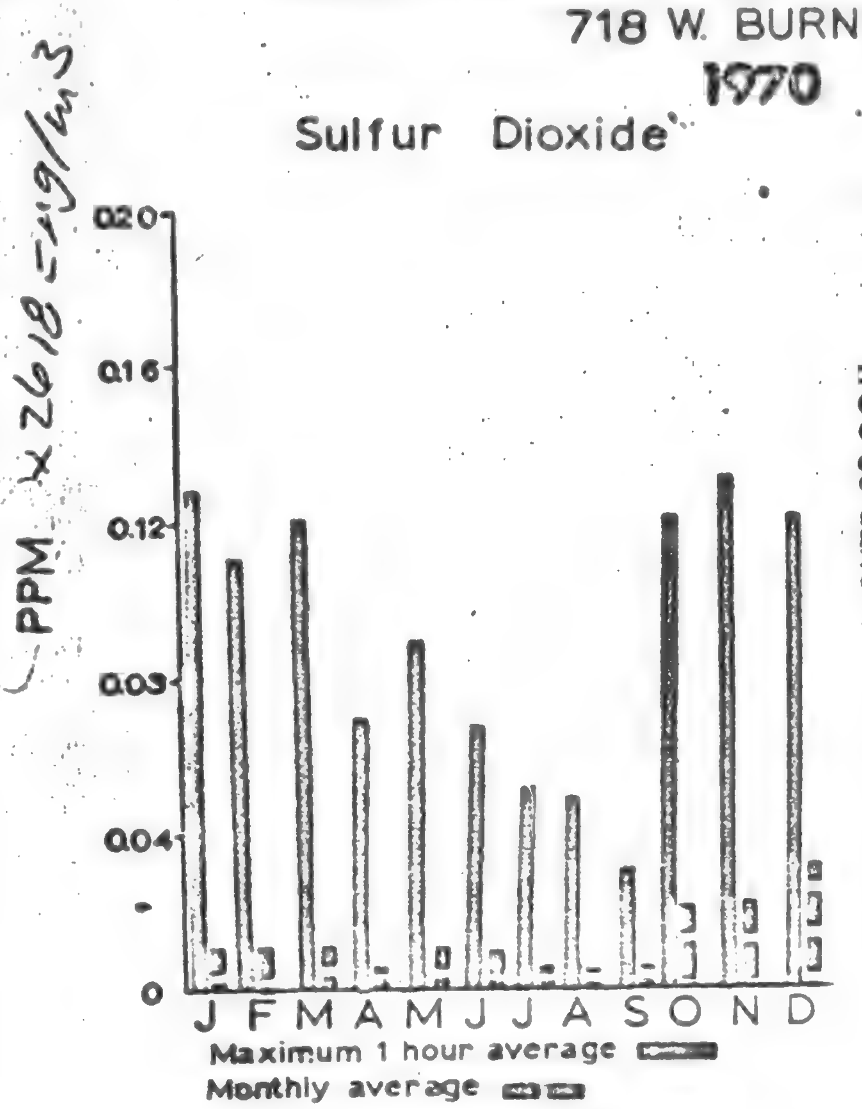


Total Hydrocarbons

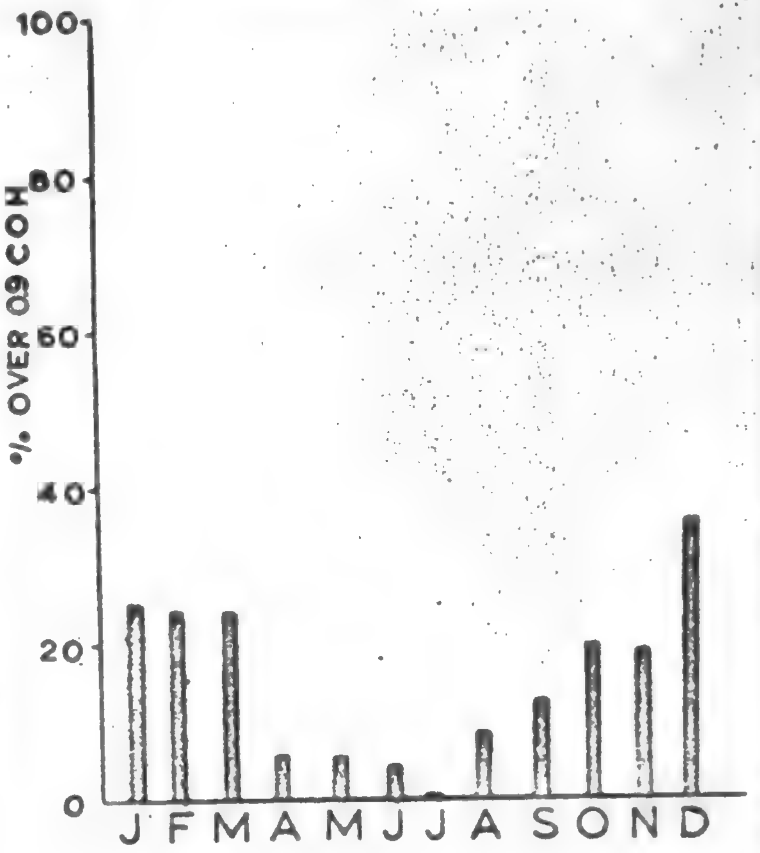


CONTINUOUS AIR MONITORING STATION
718 W. BURNSIDE
1970

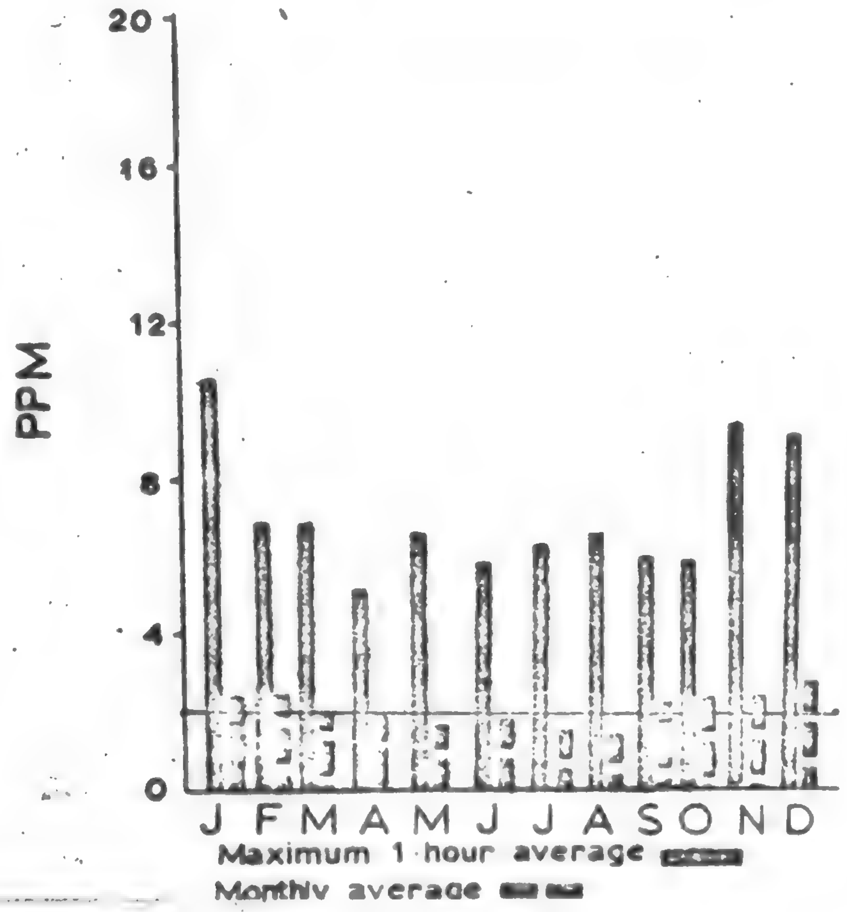
Sulfur Dioxide



Soiling Index

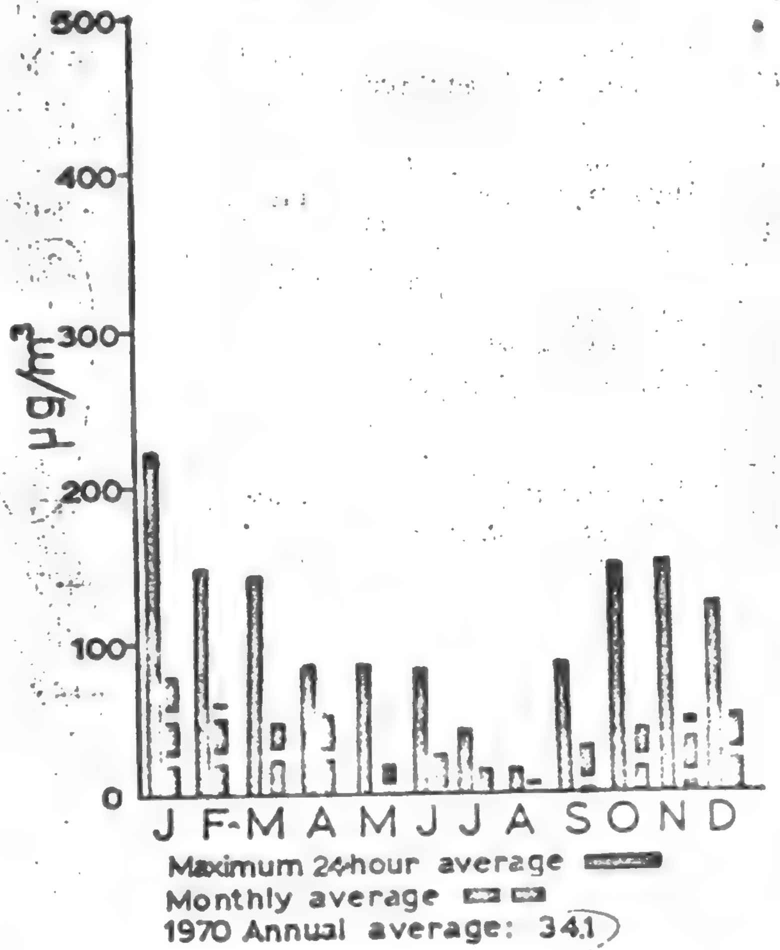


Total Hydrocarbons

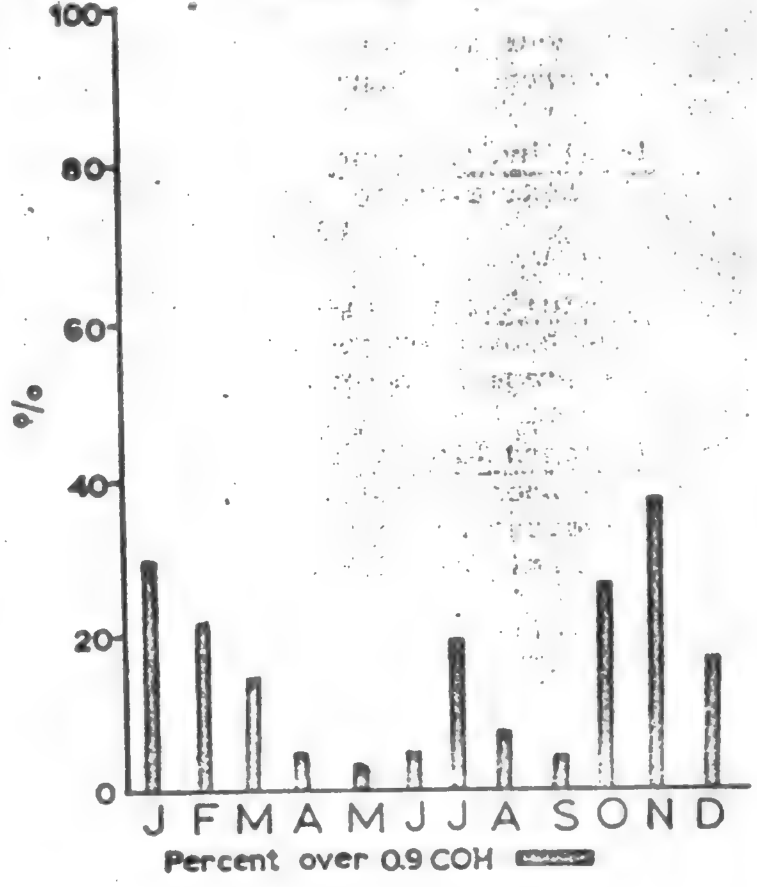


CONTINUOUS AIR MONITORING STATION
718 W. BURNSIDE, PORTLAND
1971

Sulfur Dioxide

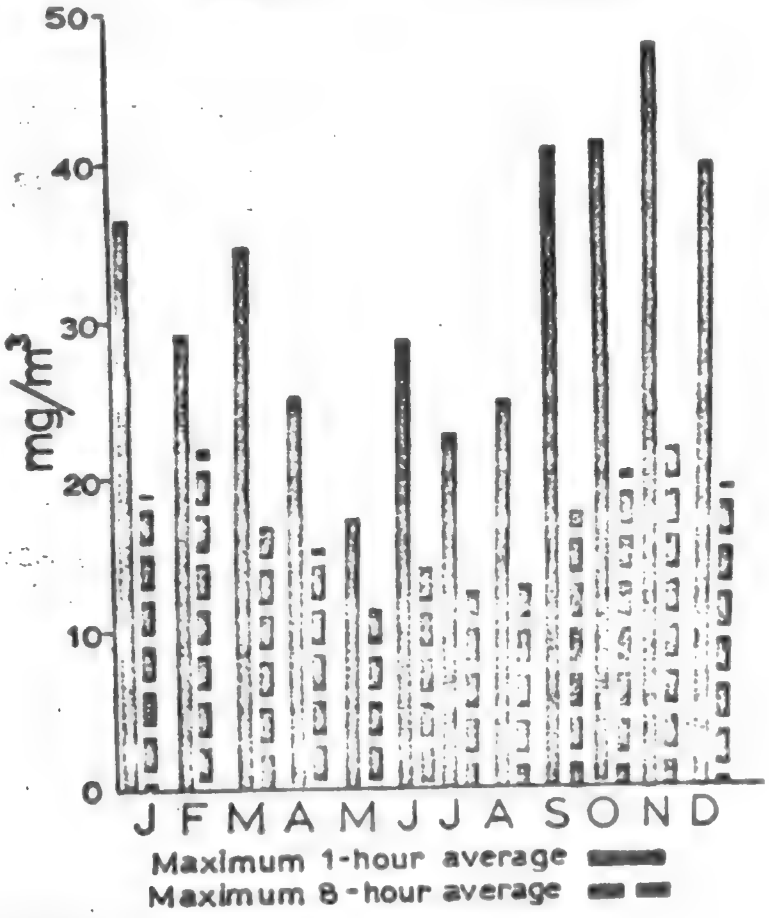


Soiling Index

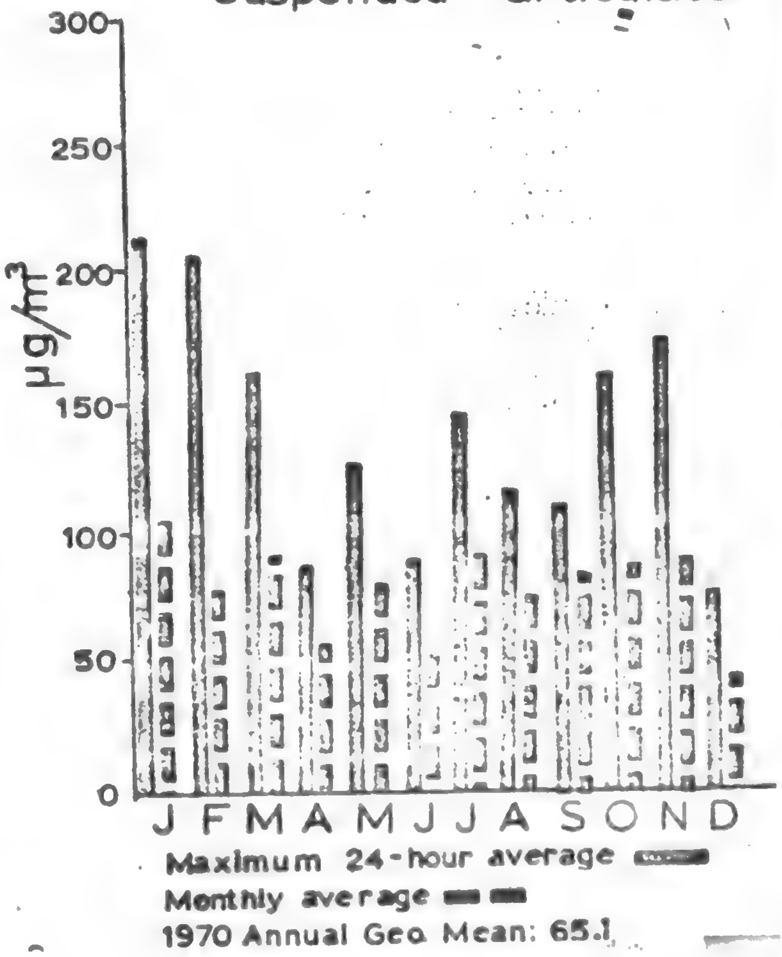


(Values Based On Standard Conditions)

Carbon Monoxide



Suspended Particulate



ATTACHMENT [illegible]

SPECIALTIES ENJAY

TECHNICAL INFORMATION BULLETIN

SUITABILITY TABLE FOR RUST-BAN INORGANIC ZINC COATINGS
RUST-BAN 190/195 - 191/195

GENERAL NOTES

The information presented in this "SUITABILITY TABLE" is for guidance of customers in determining the compatibility of RUST-BAN inorganic zinc coatings with petroleum, chemical and other liquid cargoes commonly encountered in the transportation field. The suitability ratings indicated are based on appropriate laboratory tests, actual field experience and other studies. Every effort has been made to assure the accuracy of the information presented. However, because of variations in manufacturers' specifications, widespread use of additives, etc. Enjay Chemical Company cannot assume any responsibility for the condition of the coating and/or the products carried or stored in RUST-BAN inorganic zinc coated tanks.

Strongly acidic or alkaline products will attack RUST-BAN inorganic zinc coatings. Acceptable limitations for normal service conditions are:

6.5 to 10.0 pH
Less than 0.4 Neutralization Number
Less than 300 ppm Hydrogen Sulfide Content

Infrequent and limited exposure to cargoes having acid/alkali values moderately beyond the acceptable ranges indicated above can usually be tolerated without significant damage to the coating. Contact your Enjay Representative for specific recommendations about performance of RUST-BAN inorganic zinc coatings in enviroments involving acidity/alkalinity conditions outside the acceptable limits.

The use of acidic or alkaline cleaning agents for washing RUST-BAN inorganic zinc coated tanks should be avoided.

OILS - WITH HIGH FREE FATTY ACID CONTENT

Free fatty acid content is the prime consideration in determining the suitability of vegetable oils and their derivatives. Generally, the raw oils covered in this table have low free fatty acid content - and accordingly are rated suitable for carriage in RUST-BAN inorganic zinc coated tanks. In cases where oils are known to have relatively high free fatty acid contents, (more than 2-1/2%) contact your Enjay Representative for specific recommendations. Appropriate laboratory testing may be necessary.

ICD-70-577

ENJAY CHEMICAL COMPANY
PARAMINS AND SPECIALTIES DIVISION
8230 STEDMAN STREET • HOUSTON, TEXAS 77029

(1) Products are suitable when kept dry. However, when chlorinated or brominated products contact moisture, they tend to split into free acids which gradually attack inorganic zincs after two weeks or more continuous contact.

(2) The suitability of denatured ethanol depends upon the denaturant used. Ammonium hydroxide denatured ethanol is definitely unsuitable.

(3) The suitability of animal, vegetable oils and fats is a function of free fatty acid content, temperature of the cargo, and exposure time. As a general rule, cargoes with FFA contents in excess of 5 "acid value" will cause gradual deterioration of inorganic zinc coatings at temperatures in excess of 100°F/38°C. It has, however, been noted that post-cured (with RUST-BAN 195) RUST-BAN 191 has significantly better resistance to these materials than does uncured coating. RUST-BAN inorganic zinc coatings do not contain lead which is susceptible to rapid and massive attack in the presence of most animal and vegetable oils.

(4) In general, sour crudes (hydrogen sulfide contents in excess of 300 ppm) with high (greater than 0.4) neutralization numbers gradually attack inorganic zinc coatings — especially if significant amounts of moisture are present. This is evidenced by selective rusting of tank bottoms, deckheads, and horizontal members. These selected areas can be protected by top-coating the inorganic zinc with Enjay Coal-Tar Epoxy EX 6692. Crudes with neut. numbers below 0.4 and hydrogen sulfide contents below 300 ppm are perfectly acceptable for inorganic zinc alone.

(5) Amine products of this type are generally acceptable for inorganic zincs unless moisture is present. With moisture, caustic solutions are formed, and coating failures can result.

(6) RUST-BAN 191 has excellent resistance to cyclic sea and fresh water exposure (including distilled water), but coating life is reduced (at the rate of approximately 1 mil per year) under direct and continuous water exposure. Under continuous immersion conditions, inorganic zincs are best topcoated with vinyls, epoxies, phenolics, or chlorinated rubber coatings.

(7) Coatings performance is acceptable; but product contamination has been noted and verified.

(8) For transformer oils, scrub away all loose zinc and wash out to eliminate alkalinity. Avoid water contamination of these oils.

The information contained herein is to the
best of our knowledge accurate; but since the
circumstances and conditions in which it may
be used are beyond our control we do not
accept liability for any loss or damage that
may occur nor do we offer any warrantly
of immunity against patent infringement.

D. Question

Your comments on an acceptable system. Is the following system sufficient?

Primer - Inorganic zinc - ethyl silicate (3 mils)
Stripe coat - Organic zinc (epoxy)

Vinyl wash primer (#117)
Vinyl Hi-build 80ku (3 mils) first coat
Vinyl Hi-build 80ku (3 mils) second coat

Answer

The above coating system appears to be somewhat complicated in respect to the so-called "stripe-coat" followed by the wash primer, #117.

A complete system which is quite classical is the following:

1 - Primer - inorganic zinc, ethyl silicate
2 - Vinyl wash primer, #117
3 - Vinyl hi-build first coat
4 - Vinyl hi-build second coat

Returning to the "stripe coat", organic zinc epoxy, there seems to be a redundancy. It is known to the art that zinc rich primers may be of the inorganic binder type or organic binder type and mixtures (some organic binder in the inorganic) these latter hybrids can contain polyvinylbutyral, for example, in with the ethyl silicate binder, using alcohol as the common solvent.

It doesn't appear necessary to apply an organic zinc epoxy over an inorganic zinc (ethyl silicate). Obviously, "anything can be done," but the logic of the coating system proposed is not self-evident. It would be more conventional to use instead a "normal" epoxy coating over the zinc-ethyl silicate.

Summary

The following coating systems are derived from the 5-coat system reviewed and proposed above; these systems are recommended instead:

		Dry Film
(A)	Inorganic zinc-ethyl silicate	3 mils
	Vinyl wash primer #117	0.5 - 0.75 mils
	Vinyl Hi-build 80 ku	2 - 3 mils
	Vinyl Hi-build 80 ku	2 - 3 mils
(B)	Inorganic zinc-ethyl silicate	3 mils
	Epoxy primer - thinned, Mil-P-23236 or Navy 9190. Limited cure time so as to receive vinyl hi-build	1 mil (Max)
	Vinyl Hi-build 80 ku	2 - 3 mils
	Vinyl Hi-build 80 ku	2 - 3 mils

	Dry Film
(C) Inorganic zinc - ethyl silicate	3 mils
Epoxy primer, thinned, Mil-P-23236, or Navy 9190.	1 mil (Max)
Epoxy intermediate, Mil - P - 23236 or Navy 9190	2 - 3 mils
Epoxy finish, Mil - P - 23236 or Navy 9190	2 - 3 mils
(D) Organic-zinc epoxy	3 mils
Epoxy intermediate, Mil-P-23236 or Navy 9190	2 - 3 mils
Epoxy topcoat	2 - 3 mils
	Min 8 mils

Also refer to attachment #7, "Topcoating Inorganic Zincs."

E. Question

Is Portland, Oregon's winter atmosphere deleterious to a water based inorganic zinc primer without a seal coat?

Answer

As previously reviewed under Question A-6 and A-9, for Rust-ban 191 (and 193) to cure the lithium silicate binder must be insolublized. In the atmosphere, with some humidity, the following reaction takes place:

a. $$\underset{\substack{\text{Lithium}\\ \text{Silicate}}}{Li_2SiO_3} + \underset{\text{Water}}{2H_2O} = \underset{\substack{\text{Lithium}\\ \text{Hydroxide}}}{2LiOH} + \underset{\text{Silicic acid}}{H_2SiO_3}$$

Then for curing to take place, the silicic acid has to dehydrate as indicated below:

b. $$H_2SiO_3 \xrightarrow{\text{Dehydration}} H_2O + \underset{\substack{\text{Silicon Dioxide}\\ \text{or}\\ \text{Silicic Acid}\\ \text{Anhydride}}}{SiO_2}$$

This over-simplification is not intended to detail the other complicated reactions that take place to form the complex iron-zinc silicate.

If the second reaction (b) or others which form the insoluble complex silicates, is not possible, then water soluble ingredients such as lithium silicate, lithium hydroxide, etc. can easily be washed away by rain or other condensation.

Besides the moisture which can be deleterious to such inorganic water base zinc coatings, there is the aggressive sulfur dioxide content of the winter atmosphere. The following SO_2 content was recorded in Portland, Oregon during Jan.-Mar, 1971:

	SO_2
January 1971	78.6 μg/m^3
February 1971	60 μg/m^3
March 1971	48.6 μg/m^3

As discussed in Question "C" above, these amounts of SO_2 along with moisture can be very deleterious to the inorganic zinc coating.

Summary

With the winter environment at Portland, Oregon identified as to high moisture, rain and SO_2 content, any inorganic water based zinc primer without a seal (sealer) or top coat will show definite increase in rate of diminishing of the coating film thickness, with rust finally breaking out in the damaged or deteriorated areas.

Also, it has to be postulated that the reason a certain member or area looks good, is because it was "lucky" since the aggressive environment didn't get to it yet.

F. Question

Should there have been a residue on the steel girders from a washing of the soluble salts caused by the Portland winter atmosphere?

Answer

The most soluble salts that could form on the steel girders would be the sulfates: zinc, lithium, and iron. This is assuming, of course, the presence of moisture and SO_2 in the atmosphere.

Dependent upon sequence, the zinc sulfate may or may not be present in amounts to collect for identification. The zinc sulfate (or lithium and iron) could be formed and washed away by rain. Or, the sulfate salt could be formed and localized mostly in the pores of the inorganic zinc silicate coating. Other less soluble salts and zinc compounds could trap some of the sulfates. Also, residual lithium silicate, phosphate, hydroxide and carbonate could also be converted to the sulfate.

G. Question

If your answer to "F." is yes, what evidence should there have been on the girders to indicate a residue.

Answer

The soluble sulfates normally would not form dense or ample white deposits like those formed when curing agents are applied over the Rust-ban inorganic zinc primer. Any surface sulfate would probably be washed away by rain or/other condensations. Probably, fresh water washes and recovery of several of such washes would permit chemical identity of the presence of sulfate.

H. Question

Would use of small test panels be indicative of reaction of paint on large panels?

Answer

In my studies relating to surface profiles of abrasive blasted surfaces and corrosion, the following observations have been made:

A small test panel 4" x 6" x 1/8", was divided into four equal areas and sandblasted with different sieve size abrasives such that four profiles were obtained. Also these studies included the occlusion of shattered sand within the valleys and the effect of this on corrosion.

The prepared panel was layed flat on a laboratory work bench and subjected just to the laboratory environment. In about two days, corrosion was observed on the panel. The sequence of corrosion and amount was directly proportional to the roughness of the surface, thus exposing more surface per unit area, and the amount of occluded sand particles in the depressions.

It is thus demonstrated, that even on the same panel, the environment can act differently on the various areas. It follows, two panels of identical size with some surface differences will perform differently when subjected to an exposure or environment.

A classical example of my experience is the varying performances of two identical 10" x 12" x 1/8" mild steel panels, spray painted identically, with the same continuing spray passes, and immersed in sea water side by side performed differently.

Now going to two size panels, the variations can be further amplified. A test panel (small) versus a steel girder obviously would present a case of two distinctly different surfaces.

In the first instance, the mass of the two surfaces is vastly different. This means the heat capacity of the two would vary greatly. The panel would heat up and cool off rapidly. The steel girder would heat and cool slowly. A pool of water, for example, would evaporate at different rates from the panel and girder. This would result from the varying heat contents and the varying air currents around the two surfaces.

Because of varying heat contents, varying rates of heating and cooling, and varying masses, rates of expansion and contraction would be different of the two surfaces. Coatings on these surfaces would experience different stresses under the various environmental actions.

Summary

Small test panels can at best be compared to each other and more exactly to each other if they are the same size. Such panel tests are good for screening purposes. The performances of massive girders and small panels normally would not be compared directly.

I. Question

What effect would result from increasing the zinc content to 85%.

Answer

The specification, for the Fremont Bridge, covering the properties of the mixed inorganic zinc silicate primer "already" requires a minimum zinc pigment content of not less than eighty-five (85%) percent, by weight of the total non-volatile content.

Under Question A, previously answered, the question on insufficient pot agitation may be responsive to this question. The resulting applied inorganic zinc coating would be quite variable. The zinc content, because of poor agitation and settling of the zinc pigment, would vary. The first sprayed material would be "richer" - more than 85% - in zinc and the subsequent applied coating would contain less zinc. The properties would vary accordingly. The coating with excessive zinc would be dry, porous and irregular - the low zinc would show up as a glossy, flooded, poorly adhering or even layering type of deficiency.

J. Question

1. Was a tie-coat necessary after the application of the zinc primer?

2. Was a seal-coat necessary after the application of the zinc primer?

3. Was a wash primer necessary after the application of the zinc primer?

Answer

First of all let us define the above terms: "tie coat", "seal-coat" and "wash coat".

A. Tie-coat

A "tie-coat" is a coating material that permits two coatings that are not compatable with each other - i.e., don't "stick" to each other - to become compatable in the complete coating system. In the present situation, a "tie-coat" is a coating or coating material that will permit the first coat of the hi-build vinyl to "stick" to the inorganic zinc primer. The "tie-coat" is the "sandwich spread" that holds the two pieces of bread together. As previously discussed, such a "tie-coat" could be the #117 wash primer or as it is technically designated as "pretreatment coating." Another "tie-coat" could be a thinned version of the hi-build vinyl or thinned Navy #119 (if applied to a rough and porous inorganic zinc coating). Other"tie-coats" could include epoxy, silicone, phenolic, and chlorinated rubber coatings.

2. Seal Coat

"Seal coat" may be defined as a "sealer" or "sealer coat". *

The use and function of a sealer coat may be best illustrated by the "knot sealer" for wood surfaces. In this case, the sealer consists of an alcohol solution of a phenolic resin and a polyvinylbutyrol resin. The coating is applied directly over the knot in the wood. The result is that the rosin in the knot is sealed and it will not migrate into subsequent top coats.

Another common use of a "sealer coat" is for application over asphalt paving. The "sealer" locks the asphalt under so that it cannot migrate to the surface, for example, and stain white traffic paint that has been applied. (The traffic may be of the "sealer coat" type.

In the usage with inorganic zinc primer, a "seal coat" or "sealer" locks the zinc in so that aggressive environmental factors cannot conveniently get to the zinc.

In an additional use of the "sealer", it penetrates into the normal pores of the inorganic zinc primer, seals the pores — fills them up — and provides a barrier between the inorganic zinc primer and the atmosphere.

* From Organic Coating Technology. Vol II, Payne.

K. Question

Does rust "stain" which has been deposited from an unpainted area such as the top flange have a detrimental effect on the zinc primer and/or the finish coat?

Answer

The rust stain should have no effect on the vinyl finish coat except to discolor it. The effect of the rust on the inorganic zinc primer is something else. After the rust was washed down by rain or other condensation, it entered into an oxidation-reduction chemical reaction with the zinc.

The half-cell reactions from the electromotive series of metals includes the following pertinent ones:

	Potential (Volts)
1. $ZN \longrightarrow ZN^{++} + 2E$	+ 0.763
2. $FE \longrightarrow FE^{++} + 2E$	+ 0.441
3. $FE^{++} \longrightarrow FE^{+++} + E$	— 0.770

Two reactions are possible involving the above three half-cell reactions:

(A) 1. $ZN \longrightarrow ZN^{++} + 2E$ + 0.763 volts

3. $FE^{++} \longrightarrow FE^{+++} + E$ — 0.770 volts

Net reaction (subtract 3. from 1.)

$$ZN + 2\ FE^{+++} = ZN^{++} + 2\ FE^{++} + 1.533 \text{ volts}$$

Here, the iron rust, FE^{+++} (ferric ion) reacts with the zinc of the Rust-ban inorganic zinc primer to produce (deteriorate) zinc ion, ZN^{++}, and ferrous ion, FE^{++}. The electromotive force (volts to drive the reaction is + 1.53_4 volts.

The next reaction that occurs is:

(B) 1. $ZN \longrightarrow ZN^{++} + 2E$ + 0.763 volts

2. $FE \longrightarrow FE^{++} + 2E$ + 0.441 volts

The net reaction is:

$$ZN + FE^{++} = ZN^{++} + FE \qquad + 0.322 \text{ volts}$$

These reactions are the typical or classical cathodic protection reactions in which zinc metal is sacrificed to protect the steel. These sacrificial actions are to change ferric iron (FE^{+++}) to ferrous (FE^{++}) and then to change ferrous iron (FE^{++}) to iron metal (FE).

3. Wash Primer

The term "wash primer" was derived from the practice of washing a steel structure, after erection, with dilute aqueous solutions containing phosphoric acid, alcohol or other water miscible organic solvents and an inhibitor (rust inhibitor). Such washes serve to convert the rust to a relatively harmless and well-anchored phosphate.

The present wash primer (MIL-P-15328, Formula #117) embodies the phosphoric acid, alcohol and inhibitive pigment, zinc chromate. The binder or vehicle is an alcohol solution of polyvinylbutyrol resin. Applied to a steel surface, it prepares the surface by a complicated series of chemical reactions that promote adhesion for successive top coatings. For example, wash primer (known technically as pretreatment coating) applied to a sandblasted surface will "accept" the red lead vinyl, Formula #119 (MIL-P-15929). Without the #117, the red lead vinyl would have no adhesion to the steel. This, however, does not exclude the fact that there are certain vinyls that can "stick" directly to the steel.

Also, it has been the practice to use #117 wash primer over inorganic zinc coatings. As related before, because when the two components of #117 are mixed, there still remains some free phosphoric acid. So, when #117 is applied over say Rust-ban #191 (without having curing agent #195 applied), the #117 can serve as a curing solution as well as "sealer coat" and "tie coat".

The term wash primer may refer specifically to a pretreatment coating for application over steel, aluminum and galvanized steel (zinc), but its uses have spread to include it being used as a tie-coat, seal coat, cure solution and a metal conditioner.

In the trade, "tie-coat" and "seal coat" may or may not be synonymous. It depends on how the material is used and what it is. The wash primer #117 embraces both the "tie-coat" and "seal-coat" besides being in itself a metal conditioner.

Wash coat, #117, cannot be used as a top coat or barrier coat. Within about 24 hours, it must be topcoated with a typical barrier topcoat such as epoxy, vinyl, silicone, chlorinated rubber, etc.

Summary

After the application of the inorganic zinc primer, a "seal coat" and/or "tie-coat" was necessary. The "wash coat" (117) would have served both catagories and in that sense, if selected, it was necessary. However, due to its particular composition, it too requires added protection from the atmosphere. The first coat hi-build vinyl, applied within 24 hours of the application of #117, over the wash primer would serve as the barrier required.

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Period	Sulfur Dioxide $\mu g/m^3$	Water Equivalent
Jan 1971	78.6	7.09
Feb 1971	60.0	3.36
Mar 1971	48.6	4.87

The girders were subjected immediately to high SO_2 and water impact. With no time to build-up some of the normal protective salts, such as normal carbonates, to seal some of the pores, accelerated atmospheric SO_2 and water attack too place. Such attack could greatly dimish film thickness, as observed.

The zinc ions (ZN^{++}) then form the various zinc salts and products: sulfates, phosphates, carbonates, etc. With rain and other condensations, the salts can dissolve (if soluble in water) and wash away or be washed by mechanical wearing action of the rain. In this way, new zinc is exposed for a repeat of the above sacrificial reactions. The free iron formed from the net reaction of (B) can rust by the atmosphere and start anew the whole deterioration process of zinc (and the lithium silicate end products).

L. Question

The longitudinal girders on unit WS-1 of the East Fremont showed very thin primer when checked less than 90 days after painting. Please explain, after considering the following factors:

Answer

According to available information during the application of Rust-ban 193 and 195 cure solution, the temperature in the Canron plant was stated as being held between 70-80°F with a relative humidity of 30-50%. The film thicknesses were checked by wet film measurements, (I assume dry film measurements at those measured areas was also checked) and were determined to be at least 3 mils. This then appears to eliminate a point of consideration which is contained in Attachment #14.

On page 2, 3rd paragraph, the following is stated: (Following this from above paragraph: "it (#193) can easily be applied by spray at temperatures ranging from 40°F to 140°F.)

"At the upper temperature levels, Rust-ban 193 can be applied to a dry film thickness of 3-5 mils in one coat. At lower temperature levels, it may become necessary to apply two coats of Rust-ban 193 in order to obtain 4 dry mils..."

Apparently, from time above, at low temperatures only a maximum of 2 dry mils of 193 can be obtained per coat. This was not the situation at the Canron plant where it has been stated the temperature was held at 70-80°F.

The coating thicknesses taken 90 days after the application of Rust-ban 193 (+195 cure solution) showed 1 mil average on the interior surfaces of the box beams and 2 mils for exterior surfaces. This cannot be explained on the basis of deficiency in the application process since all factors were controlled, inspected and certified. There remains only the uncontrolable environmental factors at the Fremont Bridge site.

The 4' diameter areas of pinhole rusting would be the normal rusting pattern. Penetration and deterioration would follow a droplet distribution coinciding with moisture droplet distribution on a surface (horizontal). Vertical surfaces would display flow pattern with gravity plus droplet corrosion pattern. All rusting that appears would coincide with water droplet distribution and porosity in the Rust-ban inorganic zinc coating.

The girders were shipped Jan-Feb. 1971 and film thicknesses taken in March 1971. A review of the environmental factors during this period show the following:

SPECIALTIES ENJAY

ATTACHMENT #14 PAGE 1

TECHNICAL INFORMATION BULLETIN

RUST-BAN 193

INORGANIC ZINC COATING

RUST-BAN 193 is an inorganic, self-curing, zinc silicate coating. Its unique formulation results in outstanding adhesion -- even to smooth, clean or "pickled" steel while still maintaining the advantages associated with water-based inorganic zinc-rich coatings. RUST-BAN 193 is non-flammable and offers:

- Excellent adhesion
- Exceptional abrasion resistance
- Outstanding corrosion resistance
- Self-curing mechanism
- Application at 40-140°F temperature
- Spray or brush application
- Five-day pot life
- Variety of topcoats
- Fire resistance
- Solvent resistance
- Cleanup of equipment with water
- Cathodic protection

RUST-BAN 193 has been tested extensively during the past four years under a wide variety of environmental conditions. These exposures include ships' decks, ship side shells, barges, refinery and chemical plant storage tanks, as well as numerous structural steel members. RUST-BAN 193 can be used over sandblasted, "pickled", or mechanically-cleaned steel. It is particularly useful as a touch-up primer since it adheres well to coatings adjacent to the repair area.

Typical applications of RUST-BAN 193 are as follows:

Industrial	Marine
Steel Storage Tanks	Preconstruction priming
Structural steel	Decks
Heavy equipment	Hulls
Railroad cars	Terminals

SURFACE PREPARATION

RUST-BAN 193 performs well over commercially-blasted, chemically-cleaned, shot-blasted, or power tool cleaned metal surfaces.

ICD-69-567

ENJAY CHEMICAL COMPANY
PARAMINS AND SPECIALTIES DIVISION
8230 STEDMAN STREET • HOUSTON, TEXAS 77029

PAGE 2

However, as is true with all high-performance coatings, optimum performance will be obtained with optimum surface preparation; i.e., white or near-white metal abrasive blasting.

APPLICATION

Unlike many other inorganic zinc coatings, RUST-BAN 193 is not susceptible to mudcracking, dusting, or flashing ... even when applied upon hot metal surfaces. It can easily be applied by spray at temperatures ranging from 40°F to 140°F.

At the upper temperature levels, RUST-BAN 193 can be applied to a dry film thickness of 3 - 5 mils in one coat. At lower temperature levels, it may become necessary to apply two coats of RUST-BAN 193 in order to obtain 4 dry mils. Except as noted above, application and curing properties of RUST-BAN 193 are similar to those of other water-based inorganic zinc silicate coatings, such as RUST-BAN 191.

Suitable spray equipment is as follows:

Paint Gun	Fluid Tip Orifice Size	Fluid Tip	Fluid Needle	Air Cap	Suggested Line Pressure
DeVilbiss PMBC 510	0.070	AV-601-E	MBC-444-E	MB 4039 #64	30 PSI
Binks #18 or #19	0.070	66	65	63 PE or 63 PB	30 PSI

MIXING

In mixing, the zinc dust should always be stirred into the liquid component. Agitation must be slow to avoid foaming. When thoroughly mixed, RUST-BAN 193 should be strained prior to use. During application, continuous - though slow - agitation of the coating in the pressure pot is required. Although RUST-BAN 193 has a pot life of five days, it should be restrained if the mixed coating is stored longer than eight hours.

TOPCOATS

Suitable topcoats for RUST-BAN 193 include epoxy ester, catalyzed epoxy, vinyl acrylic and latex paints. Alkali sensitive coatings such as oleoresinous and alkyd types should not be used. Consult your Enjay sales representative for specific topcoat recommendations.

Optional: Once the RUST-BAN 193 film is completely dry, a thorough washing with fresh water will improve topcoat performance by sealing up micropores in the film and removing excess alkalinity.

PAGE 3

EQUIPMENT CLEAN-UP

Good painting practices dictate that spray equipment be cleaned at the end of each period of use or for shutdowns in excess of 30 minutes. Clean, fresh water is all that is required for clean-up.

TYPICAL PHYSICAL PROPERTIES OF RUST-BAN 193

Pot Life @ 75°F, Hours	120
Viscosity No. 4 Ford Cup, Sec.	13 - 16
Density - lbs./gal.	26.4
Flash Point	Non-flammable
Practical Coverage @ 3 mils dry film thickness; sq.ft./gal.	175 - 200
Solids by Wt. %	85.5
Solids by Vol.* %	62

* As determined by wet film/dry film technique

9-24-69

M. Question

The structural steel in unit WE-1 of the West Fremont, which was primed with Rust-ban 191 and "self-cured" was still in good condition after 17 months of exposure. Please explain after considering the following factors:

Answer

The answer to the above question is actually "built-into" the question. It is evidence that the "self-cured" Rust-ban 191 actually "self-cured". To "self-cure" the atmospheric factors must be such that the cure can take place. Protective "pore filling zinc compounds and the "proper" forming of zinc-iron silicate complexs were permitted to form. In other words, environmental impact was low or relatively ineffective as far as being destructive is concerned.

Once the full natural cure of Rust-ban 191 had time to take place, and protective compounds (not necessarily soluble when compared to sulfate) formed and filled the pores, the aggressive factors of Jan-March, 1971 that impacted on the girders of Question "L", did not display the same impact on these (M) girders.

The following atmosphere factors were reported for July through October 1970 (A 4-months period when aggressive factors were at a minimum, allowing Rust-ban 191 time to self-cure.

Date	Sulfur Dioxide $\mu g/m^3$	Water Equivalent
1. July 1970	14.25	--
2. Aug. 1970	14.25	--
3. Sept. 1970	14.25	--
4. Oct. 1970	13.1	2.58

From the above data, it is evident that the most aggressive factor, SO_2, in the atmosphere was at low recorded values during the period the Rust-ban 191 was "sell-curing.

The loss of 0.8 mils of thickness appears normal then for the period of less aggressive environment; and during the critical "self-curing" period of say from July through October, 1970.

N. Question

According to surveys by the resident engineer on the Fremont Superstructure, the primer there is not deteriorating at a rate faster than we would expect. This steel was painted in San Francisco with Mobil Zinc 1, self-cured, and has been stored in Portland since the fall of 1970 with a loss of approximately 1/2 mil. The resident engineer feels that the rusty areas you have observed were never properly coated. Could you give us some insight as far as this is concerned?

Answer

In the application of any protective coating, there is always the possibility of improper coating. However, I cannot accept, without some facts to back it up, that the rusty areas of the Mobil Zinc #1 were due merely to improper application. As we have discussed, there are aggressive environmental factors at work at the Portland Fremont Bridge area. I place more importance on the sequence of environmental events that the superstructure steel was subjected to (I have to assume this steel was checked for conformance - proper application and proper film thickness - why shouldn't it have been checked?)

The San Francisco area probably had less aggressive atmospheric factors than the Portland area. Again, because of the success of the self-cure action of Mobil Zinc #1, the environment was conducive to the self-cure and was so accepted. Had this not been the case, some means of inducing cure may have been provided.

It may be repetitious to say, once the inorganic zinc coating has cured and has demonstrated ability to self-cure under those conditions, it probably has more resistance to aggressive environmental action. It must also be considered that aggressive attack is not uniform over this girder surface.

O. Question

We have been told that the distance between the paint gun and the steel surface is very critical with inorganic zinc primer. Would you comment on this?

Answer

Under Question "A", previously answered, parts (10) [the gun being held too close to the steel] and (11) [the gun being held too far from the steel] were reviewed indicating in each case the properties of the resulting applied inorganic zinc coating.

It is true that an important factor in spraying is to hold the gun at the proper distance from the steel. (With all controls and settings also properly adjusted.)

In review, if the spray gun is held too far from the steel surface a very porous, granular and possibly dusty film results. In contrast, if the gun is held too close to the surface, there will be excessive material applied to the surface. This will be identified as "flooding". Also the resulting inorganic zinc coating can take on an "orange-peel" texture, or other waviness, being forced into such patterns and said to be "air rippled".

P. Question

We would appreciate any comments you might have in regards to selection of a thickness gage for this type of work.

Answer

The micro-metrics Tooke Gage is an accurate devise, but the method calls for film destruction.

Attachment #15 describes the General Electric Type B thickness gage, the "Elcometer" thickness gage and the General Electric Permanent Magnet Thickness gage. All three of these are the "non-destructive" type.

I have personal experience with the first two. The G.E. electric Type B requires a source of electricity (110 V.) It is rather heavy but could be adapted (used) for field conditions. It is quite accurate.

The "Elcometer" is a permanent magnet pocket size type of thickness gage. Both gages should be calibrated just prior to use.

ATTACHMENT #15

$$\text{Specific gravity} = \frac{1 + \text{Twaddell [illegible]ding}}{200}$$

$$\text{Specific gravity} = \frac{145}{145 - \text{Baumé reading}}$$

(2) Acid concentration-Dilute 5 ml. of pickling solution with 50 ml. of water in a porcelain dish. Add 2 grams of unadjusted sodium hexametaphosphate and stir until it is dissolved. Add 3 drops of methyl purple indicator and titrate with standard 0.5 normal NaOH solution to appearance of gray-green color. Percent sulfuric acid (by volume) = ml. NaOH x normality x 0.574.

(3) Percent iron-To 5 ml. of pickling solution, add 50 ml. of water and 5 ml. of dilute phosphoric acid (1:1) in a porcelain dish. Titrate with standard 0.1 normal potassium permanganate until a faint pink color appears.

$$\text{Percent iron (by weight)} = \frac{1.117 \times \text{ml. } KMnO_4 \times \text{normality}}{\text{Specific gravity}}$$

b. Water rinse (Bath 2)-Methods of analysis described above may be used.

c. Rust-inhibiting solution (Bath 3) Rapid control tests of the sodium dichromate concentration may be made with the Klett-Summerson (or similar) colorimeters, comparing the transmission data with curves obtained by measurements with known concentrations of sodium dichromate and phosphoric acid. For control purposes, it may not be necessary to measure the concentration of phosphoric acid, since it is depleted at essentially the same rate as the sodium dichromate.

SECTION III. METHODS OF APPLICATION

Part 1. General

9190.41 FILM THICKNESS OF PAINTS

Knowledge of the thickness of dry paint films is of value to assure that coatings are of adequate thickness and are not excessively thick to cause early failure. Recommended dry-film thickness per coat of paint (for metal surfaces) and the approximate spreading rate (sq. ft. per gallon) which will give that thickness as follows:

1. Formula 117 - 0.5 mil at 220-230 sq. ft. per gallon.
2. Formulas 20, 30 and 104 - 1.5 mil at 295-305 sq. ft. per gallon.
3. Formulas (84 and 84D) - 1.5 mil at 310-320 sq. ft. per gallon.
4. Formulas, 20L, 42, 116, 116D, Haze gray TT-E-490 1.5 mil at 325-335 sq. ft. per gallon.
5. Formulas 5L, 5N, (5-0), 6, 23, 24, 38, 39, 40, 41, 46, 109, 111 and TT-E-00490-1.5 mils at 340-350 sq. ft. per gallon.
6. Formula 43-1.5 mils at 375-385 sq. ft. per gallon.
7. Formulas 119, 120, 122 - 1.5 mils at 145-160 sq. ft. per gallon.
8. Formulas 124, 125, 126 - 1.5 mils at 365-375 sq. ft. per gallon.
9. Formula 121-2 mils at 185-195 sq. ft. per gallon.
10. Formula 129-2-2 mils at 235-245 sq. ft. per gallon.
11. Formulas 105 & 146/50-3.5 mils at 120-130 sq. ft. per gallon.
12. Formula 34-5[illegible] at 125-135 sq. ft. per gallon.
13. Formula 15 Hi[illegible]-30 mils at 30-35 sq. ft. per gallon.

9190.42 MEASUREMENT OF FILM THICKNESS

Several measuring devices are available for determining paint film thickness. These include the following:

1. General Electric Type B Thickness Gage. The General Electric Type B gage is a rugged, reasonably portable instrument operating from a 115-volt, 60-cycle power supply. It operates on a magnetic principle and can only be used to measure coatings on a magnetic substance. The instrument is rapid and easy to use and can be used on slightly curved as well as flat surfaces. In practice, it is necessary to standardize the scale with a foil of known thickness on a bare area of the same thickness and type of surface as the one on which the measurement is being made, as different surfaces will give different readings. Measurements should not be made close to edges and corners as this will cause variations in the readings. The accuracy of the result varies with the thickness of foil used to standardize the instrument. For best results, the standardizing foil should be close to the actual thickness of the paint film being measured.

2. "Elcometer" Thickness Gage. The "Elcometer" thickness gage (different ranges available) is a light, portable instrument, fitting readily into a coat pocket. It is operated by means of the variation in magnetic force between the metal surface (which must be magnetic) and a self-contained permanent magnet. No outside source of power is necessary to operate the instrument. Measurements can be made on slightly curved surfaces. To operate the instrument, it is necessary to first standardize the dial over a bare area of the same type and thickness of metal as that on which the coating is to be measured. It is important for accuracy to hold the meter in the same plane when taking the measurements as when set to zero. The results obtained will be satisfactory for most purposes for which field measurements are made, providing the necessary precautions are taken in its use.

3. General Electric Permanent Magnet Thickness Gage. This gage is a portable, self-contained gage with a dual scale. The low scale covers the range from 0 to 7 mils and the high scale from 1 to 60 mils. The instrument is also provided with a "go-not go feature" which can be set for a minimum and maximum thickness.

Part 2. Brush Application

9190.51 EQUIPMENT

Many types of brushes are carried in stock listed in Federal Supply Catalog (Department of Defense Section), FSC Group 80. Each brush is made for a particular purpose, and for best results, the right brush for the job must be used. (See Naval Ships Technical Publication Number 17.) The Revised Master List, Part III, contains the allowances of paint brushes for all ships.

9190.52 TECHNIQUE

1. Work paint well into brush before starting to apply.
2. The brush should be dipped into paint not over halfway up the bristles and excess paint removed by patting the brush gently on the side of the can and not on the top. In

Q. Question

Your opinion of the cause of the loss of the inorganic zinc primer.

Answer

All of the items discussed in Question A through P certainly have bearing on the problem of the loss of inorganic zinc film thickness (and corrosion appearing) at the Fremont Bridge site. Obviously if the coating materials are not properly mixed, properly applied, properly cured, its performance will diminish. Because of guidance and inspection points setup in coating these steel parts, I don't think the major factor of the failure lies in the above type of deficiency or error. I believe there is a fundamental cause for the failure and that is the aggressive atmosphere at the bridge site. These aggressive factors were listed as moisture - rain and other condensations - and SO_2. Nothing in Questions B through P has been pointed to the cement plants which put out very alkaline dust particles. These too can be aggressive to the inorganic zinc coating.

Summary

The entire problem of the failure would have definitely been eliminated if the Rust-ban inorganic zinc had some sort of organic barrier or topcoat, (sealer, tie or whatever) applied over it prior to being subjected to the Fremont Bridge site.

# #

I-405-8(20)W. Fremont Interch. Section, 1970
303 Stadium Frwy. in Ptld. (Grad., pav.,
#7214 struct., sign. & illum.) Folder #5

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FOR
Info | Act | File
NOTED
A. E. JOHNSON

NOTED
TOM EDWARDS

7214

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
September 26, 1972

SUBJECT: John Saroyan's Report on
Zinc Paint Failure
East & West Fremont Approaches

To: Walter Hart
Bridge Engineer
Salem

Your letter of September 20, transmitted a report by John Saroyan relative to a series of questions which had been submitted to him with respect to the zinc paint problem on the Fremont approaches. You requested our review of this document by Mr. Saroyan and any comments we might have.

In order to better examine this report, I separated it into two parts ---- (1) those questions and answers which deal with the blasting of the steel and the mechanics of getting the paint onto the girders which is covered by all questions except No.'s 6 and 9 and (2) those questions (6 and 9) which deal with events which occurred after the paint was applied and which might help explain the zinc problems.

Tabulated below for easy reference are the first set of questions dealing with the mechanics of painting. That column shown as "Evidence" was taken from Mr. Saroyan's report and the column entitled "Help Explain Problem" is my evaluation of Mr. Saroyan's answers.

	Cause	Evidence	Help Explain Problem
1.	Excessive blast profile	Course, rough, surface	Yes
2.	Insufficient atomization pressure	Orange Peel & Lack of adhesion	No
3.	Insufficient pot pressure	Granular, dusty, dry, porous coating	Yes
4.	Inadequate Agitation	(a) course, highly pigmented dull areas (b) very glassy, smooth areas (c) areas between (a) and (b)	Yes
5.	Excessive agitation	Modeled, spotty paint film This answer mentions cure solution RB 195. This was not used on RB 191.	Yes

RECEIVED
SEP 27 1972
OFFICE OF
A. E. JOHNSON
ASSISTANT STATE HIGHWAY ENGINEER

1320 Carl Ave.
Vallejo, Calif. 94590
Home Phone: 707-642-0387
Work: 707-646-3203
September 6, 1972

AIR MAIL
(1) Mr. Richard A. Franzke
Davies, Biggs, Strayer, Stoel and Boley
Twenty-Third Floor 900 S.W. Fifth Ave.
Portland, Oregon 97204

(2) Mr. Leonard I. Lindas
Department of Justice
408 State Highway Building
Salem, Oregon 97310

NOTED
A. E. JOHNSON

Gentlemen:

Attached are the answers to Question "A" (Parts 1 through 11) which you forwarded to me with your letter of July 25, 1972.

As you advised, I have expanded the text in answering the specific question and have furnished other pertinent information such as attachments #1 through #6.

Because of these details, my original submittal date has been extended. I plan to approach the remainder of the questions utilizing the same type of expansive format. Please let me know if you have any comments or suggestions for other approaches.

I have enclosed also the time I have spent on question "A" and the billing for same. As agreed previously, you will share this expense equally. ($787.50 for each) (Total, $1575.00)

I trust this first installment is satisfactory and will be a start to help you resolve the Fremont Bridge paint problem.

I will try to expedite the preparation of answers to the other questions.

Trust that all is going well with both of you. With kindest regards.

Sincerely,

/s/ John R. Saroyan
John R. SAroyan

RECEIVED
SEP 27 1972
OFFICE OF
A. E. JOHNSON
ASSISTANT STATE HIGHWAY ENGINEER

The above-mentioned assumption of a total of three mils of zinc yielding a spread rate of 300 square feet per gallon of zinc is predicated on the operation in Canron's plant prior to the discovery of the paint problems in Portland. After this point in time, Canron made a deliberate effort to put more zinc on the girders and even went so far as to apply two coats. They have recently told us that even these girders have given trouble in Portland.

If these latter girders have also had zinc paint problems and perhaps Mr. Shotwell can comment on this, I believe this also can be explained by the application of acid cure. If you assume the milage of zinc put on in the latter condition is 5 to 5-1/2 mils with an additional allowance of a half mil for the profile covering, then a spreading rate for the zinc would be on the order of 150 square feet per gallon which would give a spreading rate for the acid of about 300 square feet per gallon. If you also assume that at this point in time Canron's people were following Enjay's recommendations for acid spreading rate more closely, and my memo referred to above mentions an acid spreading rate of 460 square feet per gallon, then you would have the situation where not enough acid was being applied and the effect described by Saroyan under his spreading of 800 square feet per gallon would apply. According to Saroyan, this condition would also promote premature rusting because the paint would not be adequately cured out.

Under the answer to question 9, Saroyan comments on the transparencies sent him. I didn't see these, but if they were typical of our problem, and I presume they were, his comment that they depict an obvious excess of curing solution is particularly significant in light of what I have said above.

I have sent copies of this letter to the three Resident Engineers on the Fremont project hoping that they would comment on my review as well as Saroyan's report and send their thoughts on both to you.

H. S. COULTER
Metropolitan Engineer

By: Edward L Hardt

EDWARD L. HARDT
Assistant Metropolitan Engineer

ELH:pb
cc: A. E. Johnson
R. E. Shotwell
John Howard
R. O. Cunningham
Dean Mandrell

Saroyan goes through a chemical analysis of the acid cure and paint to end up verifying that Enjay's recommendation of using 1/2 gallon of curing acid per gallon of inorganic zinc is correct. He then goes on to calculate a spreading rate for the acid based on an assumed spreading rate for the inorganic zinc. By assuming that the zinc was applied three dry mils thick over the peaks of the profile and further that the profile was a mil and a half to two mils deep, he concludes that the spreading rate for the zinc was 200 square feet per gallon and that, therefore, the spreading rate of the acid was correctly stated by Enjay at 400 square feet per gallon.

Mr. Saroyan's assumptions are based on the data that has been supplied him. However, I believe that some refinements should be made in these assumptions. With respect to the thickness of the film, a modification was made early in the project with respect to where the top of the blast profile stopped and the bottom of the paint film started and I am reasonably sure that some projection of the blast profile into the paint film was allowed when it came to measuring the film thickness. Secondly, when the change was made to RB 193, since it had better adhering qualities, the requirement of a one and a half to two mil anchor pattern was dropped in favor of obtaining a near-white blast. As a result, it was reported that the anchor profile used for the 193 paint was a half mil thick.

Therefore, where Mr. Saroyan assumes that there is a total of four and a half mils of zinc paint on the steel for spreading rate purposes, I believe a closer approximation would be on the order of three mils, say two and a half mils for the paint thickness and a half a mil allowed for filling the blast profile, giving a total of three mils. This would give a spreading rate for the zinc paint of 300 square feet per gallon and a spreading rate for the acid of 600 square feet per gallon. Since Canron was instructed by Enjay to use a spreading rate of 400 square feet per gallon and further, assuming that Canron painters may have used the theory that if a little is good a lot is better, it is conceivable that the amount of acid cure actually applied may have approached double that actually required.

If one can correctly hypothesize that the amount of curing acid actually applied is anywhere near double that which should have been applied then it is not difficult to explain what happened to the inorganic zinc paint when one reads Saroyan's "effects" of the application of acid at a rate of 250 square feet per gallon when he is assuming that 400 square feet per gallon is the correct rate. The "effects" as described by Saroyan of this "overdose" of acid describes almost exactly the phenomenon of zinc paint disappearance which we actually experienced. In my memo of April 8, 1971 written after visiting Canron's paint line in Vancouver, there is a statement that "Gordon Smith of CanTest has a theory that the phosphoric acid which is being used for the post-cure is absorbed deep into the zinc coating, possibly clear to the base metal, then later when the paint is exposed to moisture the unused acid is reactivated, comes to the surface and softens the surface of the zinc". If it can be shown that excessive acid was applied to the inorganic zinc, then Gordon Smith's theory takes on added significance.

Cause	Evidence	Help Explain Problem
7. Excessive atomization pressure	Granular, dusty, porous film	Yes
8. Excessive Pot Pressure	Orange Peel and Lack of Adhesion	No
10. Gun too close to steel	Orange Peel and Lack of Adhesion	No
11. Gun too far from steel	Granular, dusty, porous film	Yes

You will note that my evaluation of answers (2), (8) and (10) is that these causes would not help explain the zinc paint problem. The reason for this conclusion is that the "Evidence" as given by Mr. Saroyan for these three causes is "Orange Peel" paint surface and lack of adhesion. To the best of my knowledge, orange peeling and lack of adhesion has never been mentioned as a problem with the 193 zinc paint. The evidence and effect given by Mr. Saroyan in the answers to the other questions in this first catagory (questions (1), (3), (4), (5), (7) and (11) do suggest that these causes could be contributors towards the zinc paint problem. However, it is my personal opinion that these probably did not play a very large role in contributing to the problem. All the "Evidence" listed is manifested in a very poor-appearing paint job. If we had any paint inspection at all in Vancouver, and I'm sure we did, the inspectors would have noticed this poor product and we would have had some mention of this. This is not to say that some of the "Causes" listed didn't occur and that they didn't have some bearing on the problem but I don't believe that the answer to the problem lies in the mechanics of putting the paint on the girders.

Question No. 6 deals with the consequences of exposing the freshly painted girders to rainfall. The answer assumes that RB 191 was postcured prior to exposure. This was not the case. This answer should be amplified with the understanding that the RB 191 was not postcured. RB 193 was postcured with RB 6851 but this answer does not mention RB 193. I would assume that the answer would be the same, but this should be clarified. It is very interesting to note that the "Evidence" given in the answer of a "blotchy" or a water stained area describes the steel girders as they were received in Portland.

Question No. 9 deals with the effects of application of various rates of acid curing solution on the freshly painted girders. Unfortunately Mr. Saroyan is talking about the application of RB 195 curing solution on RB 191 inorganic zinc. In actuality, RB 6851 acid cure, was applied over RB 193. It may be that the data supplied by Mr. Saroyan applies equally to the paint and acid actually used but this should be verified. My comments that follow assume that Mr. Saroyan's answer would be the same if he had been using the correct formula numbers.

Summary of billing from August 12, 1972, through September 6, 1972, for professional consultant services rendered in connection with the Fremont Bridge primer problem. Portland, Oregon

	Date (1972)	Hours of work
1.	Sat. August 12	2
2.	Mon. August 14	1
3.	Wed. August 16	1
4.	Fri. August 18	3
5.	Sat. August 19	2
6.	Sun. August 20	3
7.	Tues. August 22	2
8.	Wed. August 23	3
9.	Sat. August 26	3
10.	Sun. August 27	2 1/2
11.	Tues. August 29	2
12.	Fri. September 1	3
13.	Sat. September 2	6
14.	Sun. September 3	2 1/2
15.	Mon. September 4	2
16.	Tues. September 5	3
17.	Wed. September 6	4
	Total	45

At $35/Hr. 35 x 45 = $1575.00 Total

Each pay one-half or $ 787.50 each

Submitted:

September 6, 1972 /s/ John R. Saroyan
John R. Saroyan

FREMONT BRIDGE PRIMER PROBLEM

PORTLAND, OREGON

Dated: Sept. 4, 1972

Answers to questions jointly submitted by Oregon State Highway Division (L. I. Lindas) and Canron Limited (Richard A. Franzke).

The response to give technical guidance jointly to both parties is to maintain a status of non-conflict of interest in regard to any governmental purpose that may be involved.

/s/ John R. Saroyan
John R. Saroyan 9/4/72

INSTALLMENT ONE

QUESTION

A. What would be the evidence and effect of:

1. Excessive blast profile?

   a. An excessive blast profile is evidenced by a very rough surface appearance. This condition could result from excessive air pressure, playing the blast too long on an area, or using a larger abrasive than is necessary to obtain the specified profile.

   b. The effect of excessive blast profile is the appearance of premature rusting. The distribution of this rusting coincides with the initial blast profile distribution of the peaks. These spots show rust breakthrough because the coating film thickness is a minimum on the peaks.

   c. Referring to the Oregon State Highway Department (OSHD) paint specification, (1) on page 59 under "Preparation of Surface," the last two lines read---"A proper profile of the anchor pattern for the inorganic zinc paint, in the range of 1 1/2 to 2 mils." (2) On page 55, under "(2) Thickness Test" the last three lines read: "shall show not less than three mils dry film thickness of inorganic zinc silicate coating film over the peaks of the blasted profile of the anchor pattern." (3) on page 60, under "Painting, Primer Coat": Minimum Dry Film Thickness of 3 Mils Above the Blast Profile Ridges."

At the outset, these three passages appear to be properly stated and are in agreement with good technology. However, there is one point of explanation and definition. The use of the word "peaks" is perhaps more definitive than "ridges." The intent seems clear enough, that "ridges" means "crest" or "summit," i.e. "the foamy top of a wave," "the crown or top"---"the whole line of buffalo---gradually disappeared over the ridge of the hill." A casual definition of ridges may suggest linear dimensions which conceivably could contain besides, summits or peaks.

Further, from Webster's Third International Dictionary (Unabridged) --- published by G & C Merriam Co., Springfield, Mass. — Ridge: "Back, spine, mountain ridge. An elevated body part projection from a surface, a range of hills or mountains, or the upper part of such a range; an extended elevation between valleys, a top or upper part especially when long or narrow. Crest: A raised line or strip, as of ground thrown up by a plow between furrows."

The understanding then is that there are two states of elevation: Peaks and ridges. Peaks signify limited dimension such as peaks of Mt. Rainier or Mt. Hood; ridges signify a linear elevation. With, this understanding both words call attention to the fact that 3 mils of inorganic zinc paint must rest on top of them to comply with the specification requirements.

I have included here for additional information attachment #1, taken from my chapter on protective coatings, from the book, "Handbook of Ocean and Underwater Engineering." J. J. Myers, McGraw-Hill Book Co. N.Y. 1969.

Certain excerpts from this chapter may be of concern and interest: (1) "The peak height is the distance from the valley floor to the top of the peak." (2) "The degree of roughness is related to the abrasive size, shape, hardness, specific gravity (density), velocity at impact, friability (how easily it breaks up), characteristics, (related more to silica sands) and blasting angle and pressure." (3) "Besides peak height or roughness, other characteristics, such as distribution and shape of peaks and valleys, are important." (4) "A preferred surface roughness profile and a less desirable surface are shown in the photomicrograph illustration of Fig. 7-14.

The proper profile of 1 1/2 to 2 mils specified by the OSHD specification is obtained in various ways by varying the critical factors mentioned above. The following from the attachment #1 further illustrates. (5) A brief summary of abrasive size distribution and resulting maximum profile height at practical air pressures is given in table 7-12. (6) Table 7-13 shows maximum profile heights for various mesh sizes of steel grit, and maximum profile heights as related to diameter of abrasive particle in table 7-14. Note from table 7-14 that the average maximum profile height is equal to about one-tenth the diameter of the average abrasive particle size. (7) Table 7-15 lists several roughness patterns (peak heights and distribution) obtained by blasting with various mesh sizes of silica abrasives and control surfaces from wire brushing, pickling, and no preparation. These profile values were obtained with the microrecorder type of instrument.* (8) A summary illustrating the relationship of surface, abrasive, and profile is given in table 7-16.

EVIDENCE

A very coarse and rough surface appearance where the distance from the valley floor to the peak top may vary from 2 - 5 mils.

EFFECT

An excessive profile requires excessive thicknesses of coating to fill the deep valleys and cap over the top of the peaks.

#

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* Surfindicator, Model BL110 - Brush Electronics Company; Cleveland, Ohio

ATTACHMENT #1

However, such aggregates do not produce the type of roughness conducive to optimum mechanical adhesion.

Profile Measurement. The surface-roughness pattern on metals resulting from abrasive blasting is produced by the impact of the abrasive granules against the malleable or distortable surface. The foreign matter on the surface is removed, and the underlying metal remains essentially intact, but pushed aside into hills and valleys. (1) The peak height is the distance from the valley floor to the top of the peak. (2) The degree of roughness is related to the abrasive size, shape, hardness, specific gravity, velocity at impact, friability characteristics, and blasting angle. (3) Besides peak height or roughness, other characteristics, such as distribution and shape of peaks and valleys, are important. (4) A preferred[12] surface-roughness profile and a less desirable surface are shown in the photomicrograph illustration of Fig. 7-14.

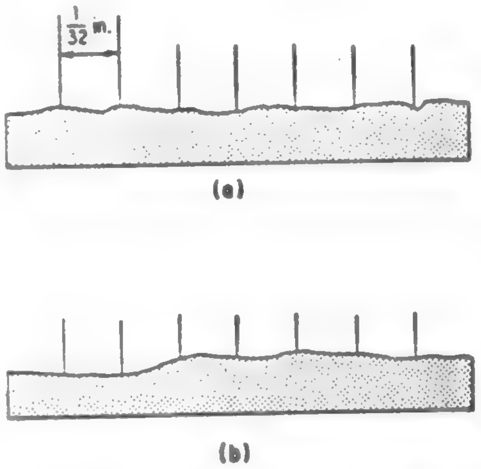

Fig. 7-14 Photomicrograph of surface produced by blasting: (*a*) produced by angular abrasive (preferable); (*b*) produced by steel shot (less desirable). (*U.S. Navy.*)

The profile can be determined directly with a microscope by measuring the distance from the valley floor to the peak of a number of protrusions. However, instruments that automatically measure profile roughness are much faster. A typical instrument used to measure the average microinch roughness of the blasted surface is the Surfindicator, Model BL110.* The microinch values obtained are in accordance with American Standards Association's "Surface Roughness, Waviness and Lay," ASA B46.1-1955 UDC 621.016, and with "Surface Roughness, Waviness and Lay," MIL-STD-10A.

Abrasive-profile Relationship. (5) A brief summary of abrasive size distribution and resulting maximum profile height at practical air pressures is given in Table 7-12; (6) Table 7-13 shows maximum profile heights for various mesh sizes of steel grit, and maximum profile heights as related to diameter of abrasive particle in Table 7-14. Note from Table 7-14 that the average maximum profile height is equal to about one-tenth the diameter of the average abrasive particle size.

TABLE 7-12. Typical Sands and Resulting Profiles

Type of sand	Percent retained on U.S. sieve series													Typical maximum, profile height, in.
	16	18	20	25	35	40	50	60	70	80	100	140	Over	
A	...	...	...	...	...	...	...	4	6	20	35	28	7	0.001–0.002
B	...	...	...	2	17	45	27	7	1	1	...	...	...	0.002
C	1	2	17	16	18	15	22	4	3	2	...	...	...	0.003

Note: Values for some of the maximum peak heights obtained. There is no strict correlation, however, with other data since technique for measuring roughness can result in variable values. In general, roughness values agree within 0.0005 to 0.001 in.

SOURCE: "Surface Preparation Techniques for Protective Coatings," Official Digest, Federation of Societies for Paint Technology, Philadelphia, 1959.

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* Brush Electronics Company, Cleveland, Ohio.

TABLE 7-13. Maximum Profile Heights versus Mesh Size of Steel Grit

Grit no.	*Max. height of profile, in.*
12	0.006
14	0.0058
16	0.0044
18	0.004
22	0.0026
30	0.0024
52	0.002

TABLE 7-14. Maximum Profile Height versus Diameter of Grit

Particle diameter, in.	*Max. height of profile, in.*
0.01	0.001
0.0175	0.002
0.025	0.003
0.035	0.004
0.045	0.005
0.055	0.006

(9) Table 7-15 lists several roughness patterns (peak heights and distribution) obtained by blasting with various mesh sizes of silica abrasives and control surfaces from wire brushing, pickling, and no preparation. These profile values were obtained with the microrecorder type of instrument.[1] A summary illustrating the relationships of surface, abrasive, and profile is given in Table 7-16.

TABLE 7-15. Comparison of Peak Height and Distribution of Roughness Pattern versus Abrasive Size

Abrasive mesh size	Peak heights, 0.001 in.	Number of peaks and valleys per 0.005-in. distance	Remarks
No preparation	¼–½	½	Long smooth sweep
Acid-pickled	¼–½	3–4	Relatively smooth
Wire-brushed	0–½	¼–½	Very smooth
80-mesh silica	½–¾	1–2	
50-mesh silica	½–1	1–2	
25-mesh silica	½–1½	1–2 for small peaks, 1 for large peaks	
16-mesh silica	½–2	1–2 for small peaks, ½–1 for large peaks	
10-mesh silica	½–4½	1–2 for small peaks, ½ for large peaks	
16–40-mesh silica	1–1½	1–2	

Wet Blasting. Dust and occluded abrasive particles can be greatly reduced if wet blasting is used. For wet blasting of steel a rust inhibitor should be included in the abrasive slurry, followed by an inhibitor wash. Inhibitors are not required for aluminum, galvanizing, stainless steel, or corrosion-resistant alloys. Also, inhibitors are not necessary in the slurry if the inhibitor washdown can be applied immediately following the slurry blasting.

TABLE 7-16. Abrasive

Surface
Mild steel
Mild steel
Mild steel
Aluminum (6061ST
Aluminum (6061ST
Aluminum (6061ST
Aluminum (6061ST
Monel (QQ-N-288)
Stainless steel (304)

* Number 110-12
Class 1, Medium: 3
SOURCE: Francis
Routine Record Boo

The inhibitor slur

4:1 by weight of di
Sand
Fresh water

The inhibitor soluti
consists of 2 lb of t

Performance. In
blasted surfaces wit
as follows, assumin

Type of

White-metal abrasive
Commercial blasting
Brush-off blasting
Wire brushing
No preparation

Various degrees of ferrous surface conditions prior to painting and degrees of surface preparation have been illustrated by a series of pictorial standards. This series of color prints, which is now available,*,†,‡ was prepared by the Swedish Standards Association and has been jointly approved by the American Society for Testing and Materials,*,76 Steel Structures Painting Council (SSPC),† and the Swedish Standards Association.‡

In addition, the National Association of Corrosion Engineers further defines blast-cleaned surfaces as follows:

> *White metal blast cleaned surface finish* is defined as a surface with a gray-white, uniform metallic color, slightly roughened to form a suitable anchor pattern for coatings. The surface, when viewed without magnification, shall be free of all oil, grease, dirt, visible mill scale, rust, corrosion products, oxides, paint, or any other foreign matter. The surface shall have a color characteristic of the abrasive media used. Photographic or other visual standards of surface preparation may be used to further define the surface.
>
> *Near-white blast cleaned surface finish* is defined as one from which all oil, grease, dirt, mill scale, rust, corrosion products, oxides, paint, or other foreign matter have been completely removed from the surface except for very light shadows, very slight streaks, or slight discolorations caused by rust stain, mill scale, oxides, or slight, tight residues of paint or coating that may remain. At least 95% of the surface shall have the appearance of a surface blast cleaned to a white metal surface finish and the remainder shall be limited to the light discoloration mentioned above. Photographic or other visual standards of surface preparation may be used to modify or further define the surface.
>
> *Commercial blast cleaned surface finish* is defined as one from which all oil, grease, dirt, rust scale, and foreign matter have been completely removed from the surface and all rust, mill scale, and old paint have been completely removed except for slight shadows, streaks, or discolorations caused by rust stain, mill scale oxides, or slight residues of paints or coatings that may remain; if the surface is pitted, slight residues of rust or paint may be found in the bottom of pits; at least two-thirds of the surface area shall be free of all visible residues and the remainder shall be limited to the light discoloration, slight staining, or light residues mentioned above. Photographic or other visual standards may be used to further define the surface.
>
> *Brush-off blast cleaned surface finish* is defined as one from which all oil, grease, dirt, rust scale, loose mill scale, loose rust, and loose paint or coatings are removed completely, but tight mill scale and tightly adhered rust, paint, and coatings are permitted to remain provided they have been exposed to the abrasive blast pattern sufficiently to expose numerous flecks of the underlying metal fairly uniformly distributed over the entire surface. Photographic or other visual standards of surface preparation may be used to further define the surface.

With the very best of surface preparation sufficient coating thickness must be applied to cover the highest profile peaks as well as to provide sufficient film thickness to serve as a barrier against the destructive environment.

TABLE 7-17. Coating Performance as a Function of Profile and Coating Thickness

Panel profile, in.	Paint thickness, in.	Salt-fog-cabinet test results		
		7 days	14 days	21 days
0.0018	0.0016	Many rust spots	Badly rusted	Heavily rusted
0.0018	0.0038	No change	Some rust spots	Moderately rusted
0.0018	0.0057	No change	No change	Some rust spots

SOURCE: J. F. Gosse and W. W. Cranmer, The Suitability of an Abrasion Blasted Surface for Painting, *BuShips Abrasion Blasting Conf., San Francisco*, November, 1957.

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* ASTM, 1916 Race St., Philadelphia, Pa. 19103

† SSPC, 4400 Fifth Ave., Pittsburgh, Pa. 15213

‡ Swedish Assn, Sveriges Standardiserings Kommission, Box 3295, Stockholm 3, Sweden.

Coat
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TABLE 7-16. Abrasive-cleaned Surfaces

Surface	Abrasive No.*	Air pressure, psi	Surface roughness, μin.
Mild steel	110–120	65	50–57
		87	90–100
		90	55–90
Mild steel	1	65	165–175
		87	170–180
		90	195–210
		95	175–190
Mild steel	3	65	195–220
		87	240–250
		90	200–250
		95	215–250
Aluminum (6061ST)	110–120	65	59–70
		87	65–75
		90	100–130
Aluminum (6061ST)	1	65	135–145
		87	245–255
		90	200–240
		95	230–255
Aluminum (6061ST)	3	65	260–275
		87	300–320
		90	250–300
		95	350–440
Aluminum (6061ST)	3	65	260–275
		87	300–320
		90	250–300
		95	350–440
Monel (QQ-N-288)	110–120	92	40–50
		92	50–60
Stainless steel (304)	110–120	90	95–110
		80	75–85

* Number 110–120 is MIL-A-21380B, Type II, Grade B; 1 is MIL-S-22262, Class 1, Medium; 3 is MIL-S-22262, Class 1, Utility.

SOURCE: Francis H. Hall, Unpublished Notes from Mare Island Paint Laboratory Routine Record Book, Mare Island, Calif., 1965. See footnote to Ref. 59.

The inhibitor slurry is made as follows:[33]

Ingredients	*Amount*
4:1 by weight of diammonium phosphate to sodium nitrite	2 lb
Sand	300 lb
Fresh water	15 gal

The inhibitor solution for washing down the abrasive residue from the blasted area consists of 2 lb of the 4:1 inhibitor salt mix to 40 gal of fresh water.

Performance. In general, coating performances estimated for various degrees of blasted surfaces with wire brushing and no preparation controls may be summarized as follows, assuming 100 percent rating for white-metal abrasive blasting:

Type of preparation	*Effectiveness, %*
White-metal abrasive blasting	100
Commercial blasting	80
Brush-off blasting	60
Wire brushing	50
No preparation	25

nd degrees of surface
ards. This series of
ish Standards Associ-
ety for Testing and
e Swedish Standards

further defines blast-

a gray-white, uniform
ern for coatings. The
grease, dirt, visible mill
matter. The surface
graphic or other visual
surface.
ich all oil, grease, dirt,
matter have been com-
very slight streaks, or
n tight residues of paint
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urface.
hich all oil, grease, dirt,
the surface and all rust,
y slight shadows, streaks,
ht residues of paints or
of rust or paint may be
shall be free of all visible
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hich all oil, grease, dirt,
are removed completely.
are permitted to remain
rn sufficiently to expose
uted over the entire sur-
aration may be used to

ating thickness must be
e sufficient film thickness

ating Thickness

esults	
	21 days
s	Heavily rusted Moderately rusted Some rust spots

ty of an Abrasion Blasted
Francisco, November, 1957.

n3295, Stockholm 3, Sweden.

Coating thicknesses of at least two, and preferably three, times the average peak height are recommended for corrosion protection. Table 7-17 illustrates performance of an alkyd metal primer related to profile and film thickness after exposures in a salt-fog cabinet. The test results show that thin films leave peaks unprotected and prone to early pinpoint rusting.

Surface Pretreatment

Some metals react chemically with paint vehicles to produce compounds that may either improve or reduce coating adhesion. For example, it has been noted that a paint made from the copolymer resin of vinylidene chloride and acrylonitrile (Saran) will react with iron. This reaction may be necessary for promoting adhesion. However, if a coat of formula 117 wash primer (MIL-P-15328), a known adhesion promoter, is first applied over the metal, then the Saran coating peels off easily. Decomposition products that react with the metal surface, one of which has been identified as acetic acid, tend to decrease adhesion. Such undesirable by-products result from the presence of moisture and the oxidation process during the drying of certain paint vehicles. In order to reduce such paint-metal reactions, and also to provide for rust inhibition and protect against rust creeping under a coating film, metal pretreatments are used to convert the reactive metal surface to a chemically inert and adherent compound. These new stable surfaces usually are readily wetted by most organic coatings, with resulting better adhesion.

Phosphate Coatings. Pickled or acid-cleaned steel plates usually require a rust-inhibiting dip to remove excess acid and to provide a phosphate-chromate stable surface. A good inhibitive solution is as given above under Removal of Mill Scale and Rust.

Most of the proprietary phosphating solutions are complex but usually contain a phosphoric acid solution and a metal phosphate, such as zinc phosphate, manganese phosphate, or manganese dihydrogen phosphate. The phosphate layer or film formed on the metal surface consists of crystalline phosphate salts of the metal being treated or of the metal ions added to the phosphating solution. Besides the formulation given above, a common preparation for treating iron or steel[55] consists of primary zinc phosphate in phosphoric acid solution with heat and agitation. A tertiary insoluble zinc phosphate salt is formed, which makes up a good part of the phosphate protective layer; a small amount of secondary iron phosphate is also formed. Initially the solution is at nearly the saturation point of the tertiary zinc phosphate. When a piece of steel is immersed in the solution, the phosphoric acid reacts with the iron, liberating hydrogen gas. As the free acid is used up and the pH increases, the solubility of the tertiary zinc phosphate is exceeded, and deposition on the steel begins. Since the phosphating is slow because of cathodic polarization, accelerators or depolarizers such as nitrates, nitrites, and chlorates are used.

Shop Coat. After a steel plate is mechanically or chemically cleaned and treated, a shop coat, or construction primer, is applied to protect the clean metal surface during fabrication. A version of this coating is a weld-through primer which permits welding without removal of this coating.

One of the common primers used on mild-steel plates is an alkyd-zinc chromate coating (formula 84/47 conforming to specification TT-P-645). During and after construction, burned or weld areas are touched up with the same primer to protect the bare steel from premature corrosion. In many areas the construction primer is retained and topcoats are applied over it. In critical areas like shipbottoms, or in tanks, where definite coating compatibility is required, the construction primer is blasted off along with any phosphate-chromate pickling layer, so that epoxy or other chemical-type coatings can be applied. One recent requirement for a weld-through primer is that it permit welding through and need not be removed prior to application of subsequent coatings. Also, it should be compatible with subsequent topcoats, including epoxy, coal-tar epoxy, polyurethane, vinyls, silicones, and chlorinated alkyds. A suitable weld-through primer is a modified prepolymerized epoxy.

Wash Primer. The so-called "wash primer" has come into widespread use for many applications as a pretreatment for metal, plastic, concrete, wood, etc., to promote coating adhesion. It is made from a phosphoric acid, isopropyl alcohol, polyvinyl butyral resin, and inhibitive chromate pigment.

The present formula 117 pretreatment coating covered under MIL-P-15328B is being used internationally for a variety of surfaces to promote adhesion, to make the surface passive, and to prevent premature corrosion; for example on shipbottom sand-blasted steel; on stainless-steel sonar domes, replacing the usual nitric acid treatment for passivating the surface; on wood hulls to seal the pores and promote adhesion of shipbottom vinyl paints; on concrete to neutralize alkalinity and to seal and promote adhesion of top coats; on aluminum surfaces to promote adhesion where the standard process to treat aluminum for applying a chromium-conversion coating is not utilized; on galvanizing; and on magnesium surfaces to improve adhesion of coatings. Usually the phosphoric acid diluent that is added to the base material is reduced to one-half to one-third the standard total amount for magnesium.

Special Pretreatment for Aluminum. In addition to the wash-primer treatment, chromate chemical processes are widely used to produce stable surface compounds on aluminum and to improve coating adhesion. After the aluminum surface is cleaned mechanically, chemically, or with solvents, it is treated with a detergent cleaner to remove any greasy materials. Then any oxide formed is removed with a mild alkaline cleaner; this may leave a black smut, but it can be removed with a deoxidizer such as Deoxidizer No. 1.* The part is then treated with a suitable chromium-conversion coating. Subjecting the part to an acidulated hot-water rinse ensures the best type of conversion coating. The resulting color should be irridescent golden to gold.

Besides the chromium type of surface treatment, there are oxide types (anodizing) produced electrolytically which are effective in promoting coating adhesion and which serve as a resistant layer.

Special Pretreatment for Magnesium. The normal film that forms in air on magnesium is not an effective barrier against a moist atmosphere. Certain anodic treatments, such as Dow No. 17† followed by a wash primer (117, MIL-P-15328B), a zinc chromate–vinyl primer (120, MIL-P-15930B), and a topcoat of vinyl alkyd (122–27, MIL-P-15936B), give good protection.

Most of the treatments for magnesium are immersion or anodic treatments in baths which contain dichromates or mixtures and oxyacid salts such as sulfates, nitrates, or phosphates. Several treatments are given in MIL-M-3171B.

Anticorrosive Coatings

Anticorrosive, or barrier, coats are the real workhorses of a coating system. They usually form the bulk of the film thickness that is necessary to serve as the wall between the prepared or treated surface, with or without primers, and the topcoats which are in direct contact with the destructive marine environment. Although such coatings may include rust-inhibitive pigments when used for metals, and may even contain such pigments throughout the entire coating system, as in lead silicochromate, the burden of the protection rests upon this barrier. It has been observed that an improvement in the anticorrosive coating in a shipbottom paint system can definitely improve the antifouling performance.

The coating must keep the moisture from penetrating through to the marine surface. If moisture gets through, then corrosion starts; if oxygen is present and passes through the film, this corrosion action is accelerated. Water-soluble inhibitor chromate pigments in the primer do help to reduce or retard the corrosion action by supplying a pool of chromate ions. This pool can be located under a blister where corrosion is arrested, even in the presence of chloride ions.

The penetration of moisture can be stopped successfully, for example, by 0.006 to 0.01 in. of nonporous, dense organic coating films. An epoxy or vinyl-resin base coating 0.008 to 0.01 in. thick can prevent corrosion of a coated piece of immersed steel for several years. Other less permeable coatings, such as dense Saran (copolymer of vinylidene chloride and acrylonitrile), can prevent water penetration even if they are only 0.002 in. thick.

* Amchem Products, Inc., Niles, Calif.

† Dow Chemical Company, Midland, Mich.

QUESTION

A. What would be the evidence and effect of:

2. Insufficient atomization pressure?

ANSWER:

Insufficient atomization pressure is caused by air and fluid pressure not adjusted properly: The air pressure is too low; the fluid pressure is too high. (See attachment #2 * here, (a) page 10, Item 7). This condition produces a coating surface that is rough, or in painter's language, and has an "orange-peel" finish. (See attachment #2*, (b) page 10, Item 7). This condition results from "flooding" the surface with surplus material and then letting the fluid pressure distort the sprayed coating into rippled or "orange-peel" pattern.

The technology of coatings related to insufficient atomization pressure is that more vehicle (binder) appears above the pigment of the sprayed coating, producing variations in color which are different from the standard color.

"Piling on" these improperly proportioned coating material (vehicle to pigment) could result in adhesion failure or other coating deficiencies.

Insufficient atomization pressure may be further illustrated by the common garden hose with a straight nozzle. As you loosen the nozzle, a heavy water stream emits. This would represent the characteristics (amplified) of insufficient atomization pressure in spray painting. As you tighten the nozzle, a fine spray results. This represents proper atomization pressure.

The condition of rough applied coatings, or "orange-peel" finish can result from insufficient atomization pressure, too high pot pressure, (excess volatiles in the formulation) and holding the spray gun too close to the surface— causing the air ripples. (See chart #1, Spray Characteristics, attached to Question A. 11. Also Attachment #2 page 10, Item 7.)

EVIDENCE:

The evidence of insufficient atomization pressure is the deposition of a coating that has an "orange-peel"appearance or other forms of surface waviness.

EFFECT:

The effect of such a coating is that it can lose adhesion because of nonhomogeneous distribution of pigment and vehicle. Also, the valleys of the orange-peel profile represent areas of minimum coating thickness and could be prone to early corrosion breakthrough.

* From Chapter 9190, NAVSHIPS Technical Manual - used here in relationship with governmental purpose.

ATTACHMENT #2

painting, the brush should be held at right angles to the surface, and paint applied horizontally in one direction, lifting and applying a parallel stroke. This is termed "laying on." Edges and sharp corners should be coated as a preliminary to the overall coat.

3. After laying on a small area of parallel strokes, the work should be crossed at right angles to eliminate streaks and brush marks. This is called "laying off."

4. The surface should be finally smoothed out to a thin coat.

5. Some of the fast drying paints will not permit "laying off." In such cases, the paint should be applied, spread rapidly, and then left undistrubed.

9190.53 CARE AND MAINTENANCE

1. Before using, rinse brushes with paint thinner. New brushes should be soaked in boiled linseed oil for about 48 hours to make the brush more flexible and easier to clean.

2. Brushes that are to be reused the following day should be marked for white, light colors, or dark colors. Brushes may be suspended by the handle, with the bristles immersed to just below the bottom ferrule in paint thinner or linseed oil in a closed container. The weight of the brush should not rest on the bristles.

3. Brushes that are not to be immediately reused should be carefully cleaned with thinner (at least three washings) and then washed. They should be stored, suspended from the handle on racks or wrapped in paper and stored flat.

4. Bristles are generally set in rubber or similar composition. Soaking in water to tighten loosened bristles causes the metal ferrule to rust, and often times split, due to swelling of wooden handles.

Part 3. Spray Application

9190.61 EQUIPMENT

1. A paint spray gun is a mechanical means of bringing air and paint together, atomizing or breaking up paint stream into a spray, and ejecting it for the purpose of applying a coating. The Revised Master Allowance List, part II, group S92-1 contains the allowances of paint spray equipment for all ships. Special procedures are covered in section V.

2. A spray gun consists of the gun body assembly and removable spray head assembly.

3. The principal parts of the gun body assembly are:

a. **Spreader adjustment valve.** This controls the air to the spreader horn holes to the air cap. This valve is generally equipped with graduated dial for facilitating adjustments. Changing the setting will affect the spray pattern.

b. **Air valve and fluid valve.** These control the supply of air and paint to the gun and are opened and closed by the pull and release of the trigger.

c. **Fluid needle adjustment.** This is a valve controlling the amount of material passing through the nozzle by controlling the movements of the fluid needle.

d. **Locking bolt.** This locks the spray head and gun body together.

4. The principal parts of the spray head assembly are:

a. **Air cap.** The air cap is that part at the front of the gun which directs the air into the paint stream to atomize the material and form it into a spray pattern. External mix guns mix air and paint outside the air cap. Internal mix guns mix air and paint inside the air cap. An external mix cap is equipped with two spreader horns and a center orifice and sometimes auxiliary orifices through which air is ejected and then mixed with the paint auxiliary orifices.

b. **Fluid tip and fluid needle.** The fluid tip is that part at the front end of the gun which meters and directs the paint into the air stream. The fluid tip fits inside the air cap and is available in several standard nozzle sizes. The nozzle refers to the size opening in the fluid tip. The fluid needle is actuated by the tigger and meters the paint passing through the fluid tip into the air stream. When the trigger is released, the fluid needle cuts off the paint flow.

5. One of the recent improvements in the paint application field has been the development of the hot-spray process. Such equipment is now commercially available. In most cases, paints are heated to fairly high temperatures before spraying, thereby reducing viscosity one-third to one-fourth the viscosity at 70°F. Benefits from this process include the following:

a. Elimination or reduction of holidays in the film.

b. Smoother and less porous finishes with fewer orange peels, sags, runs, etc.

c. Reduction in waste of paint in the form of overspray or fog.

d. Elimination of thinner additions to paint to reduce paint to spraying consistency where necessary.

e. Reduction of atomizing air pressures.

f. Minor gun adjustments over a wide range of weather conditions because of control of paint viscosities by maintenance of constant spraying temperatures, and therefore more consistent results.

g. Application of heavier coats requiring fewer coats for multiple-coat system and resultant reduction in time.

h. Reduction of clean-up time where paint is recirculated overnight.

9190.62 TECHNIQUE

1. It is extremely important that all paint be thoroughly mixed and strained through a wire screen or a cloth to rid it of skins or coarse and foreign particles before spraying, thus preventing clogging in the nozzle with resultant uneven applications.

2. Be sure that an air filter is connected to the main air supply line to prevent mixing of moisture or oil particles with the paint discharged from the gun. The proper pressure to maintain depends upon the consistency of the paint, length of the hose, or the height the gun is used above the paint reservoir, and the speed of application.

3. The gun should be held from 6 to 8 inches from the surface being painted. Begin the stroke before pulling the trigger and release the trigger before ending the stroke. This prevents "piling up" paint at the beginning and end of each stroke. Always keep the gun at right angles to the surface. Swinging the gun in an arc results in uneven application and excessive over-spray at the end of the strokes. When spraying corners, first spray to within 1 to 2 inches of the corner. Then, holding gun sideways, spray corner in such position that both sides are sprayed at once. Speed of application depends on material being sprayed, rate of paint flow, and surface to be coated.

4. Having made initial adjustments of air and liquid pressures, final adjustments are made by observations of spray patterns. Normal spray patterns will appear as illustrated in figures 9190-1 and 9190-2. Imperfect spray patterns usually are due to clogging of passages or improper balancing of air and fluid pressures.

5. Imperfect patterns due to clogged passages will take the following forms:

- a. Heavy top pattern (see figure 9190-3).
- b. Heavy bottom pattern (see figure 9190-4).
- c. Heavy right side pattern (see figure 9190-5).
- d. Heavy left side pattern (see figure 9190-6).

6. Imperfect spray patterns due to improper balance of air and fluid pressures will take one of the following forms:

- a. Heavy centered pattern (See figure 9190-7) due to:
  - (1) Too low a setting of spreader adjustment valve.
  - (2) Too high fluid pressure.
  - (3) Viscosity of material too great.
- b. Split spray pattern (see figure 9190-8) due to:
  - (1) Too high a setting of spreader adjustment valve.
  - (2) Too high fluid pressure.
  - (3) Material too thin.

b. 7. Common causes of "orange peel" finish are too high
a. a pressure and excess volatiles, insufficient atomization,
and holding gun too close to surface (air ripples).

8. Another common defect in spraying is "mist" or "fog" due to:

- a. Over atomization caused by:
  - (1) Air pressure too high.
  - (2) Fluid pressure too low.
  - (3) Wrong air cap for material used.
  - (4) Wrong fluid tip for material used.
- b. Improper use of gun:
  - (1) Incorrect stroking.
  - (2) Gun too far from surface.

9190.63 CARE AND MAINTENANCE

1. Spray guns, paint containers, and hose must be thoroughly cleaned after use.

2. When using pressure feed tank, release pressure from tank, hold cloth over air cap, and pull trigger forcing material back into tank. Then remove paint hose from gun and run solvent through hose. Dry out hose with air. Spray some solvent through gun. Remove air cap and wash off fluid tip with solvent. Clean air cap and replace on gun. Clean out tank and reassemble for future use.

3. When using cup gun, hold cloth over openings in air cap and pull trigger forcing paint back into container. Empty cup of paint and replace with small quantity of solvent. Spray solvent in usual way. Then remove air cap and wash off fluid tip with solvent. Clean air cap and replace on gun.

4. Clean air cap by immersing in solvent. If small holes become clogged, soak in solvent. If reaming is still necessary, use match stick, broom straw, or any other soft implement. Digging out holes with wire or nail may permanently damage cap.

5. Never soak the assembled gun in thinner as this has a detrimental effect on the packing around the fluid valve as well as the grease and oil trigger action.

6. Do not use caustic alkaline solutions for cleaning spray guns as they destroy aluminum alloys used in gun bodies and parts.

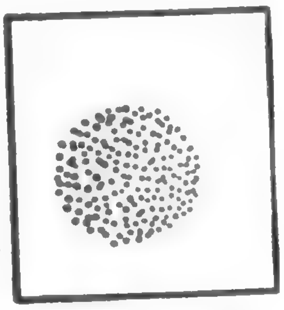
Figure 9190-1.
NORMAL

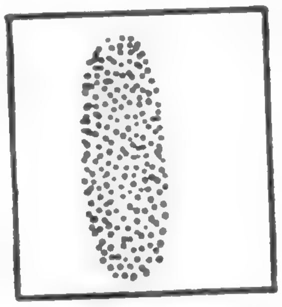
Figure 9190-2.
NORMAL

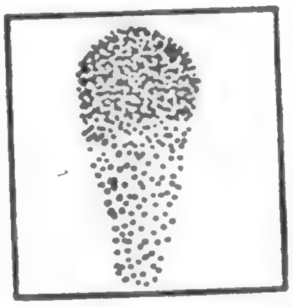
Figure 9190-3.
HEAVY TOP

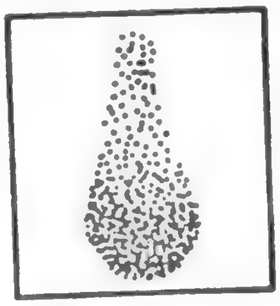
Figure 9190-4.
HEAVY BOTTOM

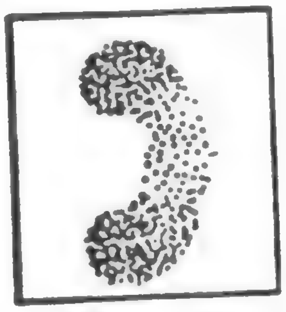
Figure 9190-5.
HEAVY RIGHT
SIDE

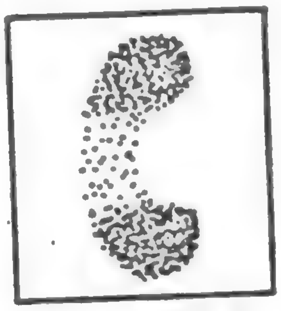
Figure 9190-6.
HEAVY LEFT
SIDE

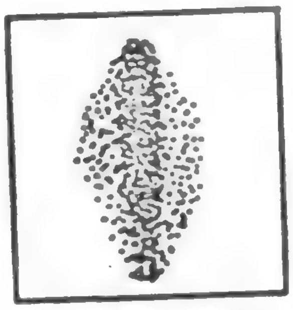
Figure 9190-7.
HEAVY
CENTERED

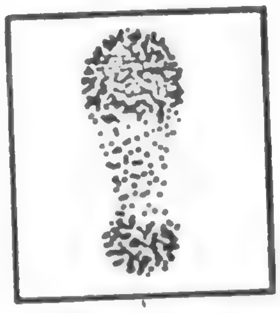
Figure 9190-8.
SPLIT SPRAY

QUESTION

A. What would be the evidence and effect of:

3. Insufficient pot pressure?

ANSWER (See Chart #1 for co-factors, etc., under A. #11)

Pot pressure regulates the amount of material (Rust-Ban 191) that will be moved from the pot, out through the material supply hose to the spray gun. This amount must be sufficient such that for a particular setting of the spray gun, a good spray pattern results; and the material reaches and is deposited on the steel surface as a wet film.

Insufficient pot pressure simulates the conditions that produce the effects of over-atomization pressure and holding the spray gun too far from the surface. All three of these spray characteristics (see Chart #1) produce a dusty and porous coating film.

With a limited amount of coating material being delivered to the spray gun, for the particular atomization pressure, the material is divided into a fine "mist or fog", each paint particle tending to dry through loss of solvent (water); and the particles the steel surface in a semi-dry state. Since these semi-dry particles have no fluidity, they merely are deposited in their semi-solid form. Each new particle lands and binds to the previously deposited ones, forming a cannon ball layering. This arrangement makes for excessive film porosity and easy entrance of aggressive environmental factors, such as moisture.

EVIDENCE

The evidence of insufficient pot pressure, for a given spray gun setting, is a coating that is granular, dusty, "dry" and porous.

EFFECT

The effect of such a film is that it permits moisture penetration (along with other airborne aggressive factors) and thus provides means for other aggressive factors to finally cause rusting of the basis steel.

QUESTION

A. What would be the evidence and effect of:

4. Inadequate agitation?

ANSWER

A protective coating composition usually consists of pigment, binder or vehicle and some low viscosity material called a solvent (alcohol, paint thinners, water, etc.) when the coating is applied, the solvent leaves through evaporation and the pigment and vehicle remain on the surface as the coating film.

It is obvious that various amounts and types of pigments can be used to obtain a particular identity of the applied coating. Besides color, for example, varying amounts of pigments added to a formulation result in coatings that can vary in gloss. Generally, the more pigment used, the less will the resulting gloss of the coating be. An enamel, or glossy finish, has little pigment, whereas a flat primer has a large amount of pigment.

In the field of antifouling paint formulation, it is very important to incorporate sufficient toxic pigment into the composition so that the applied coating will furnish a lethal surface toward marine growth when a coated surface is immersed in the ocean.

Another example where the proper ratio of pigment to vehicle (or binder) is important is in zinc rich paints, such as Rust-Ban 191 inorganic zinc primer. Here a certain percentage of zinc dust pigment must be present to promote cathodic protection. For this to happen, the particles of zinc pigment must be in electrical contact with the basis steel. Also a certain voltage must be generated to drive the cathodic protecting current. (See Attachment #3, page 7-64, Table 7-30— 20-hr. voltage, V). (Also see page 7-63, Table 7-29, Protection vs % Zinc.)

It now becomes obvious, that if inorganic zinc compositions, which have a very high loading of zinc pigment, are not kept agitated during spray application, some of the zinc will settle to the bottom of the spray pot. If such a mass of material is sprayed, the settled zinc will be moved out of the pot first with what little vehicle is dragged with the zinc particles. Such an applied coating will be over-loaded with zinc and may be very mealy and dusty; and lose adhesion or be easily rubbed off. (Such a coating is also identified as having poor cohesive properties.) The successive masses of sprayed material will be deficient in zinc pigment. Such a film will appear to have a luster and is subject to fast deterioration.

(I have enclosed here attachments #3 and #4 publications which I authored. These two papers cover the subject of inorganic zinc coatings and are particularly related to cathodic protection versus zinc content.)

Attachment #3, page 7-64, Table 7-30, shows performance versus volume of zinc in the dry film. I.e. 48.3% by volume generates 0.0103 volts and the test panel was completely rusted. The rest of the compositions with zinc in excess of 48.3% i.e. 66% upward to 78.8% gave excellent corrosion protection.

Also Attachment #4, paye 28, top 4 lines, show 80% by weight zinc pigment failed to stop rsuting.

EVIDENCE

The evidence of inadequate agitation of the inorganic zinc primer composition, Rust-Ban 191, while it is in the spray pot, is that a variety of film properties and appearances result. These may include:

a. A very coarse, highly pigmented, dull areas that may be "powdered off" or removed by pressure.

b. Very glassy smooth areas.

c. Areas in between a. and b. in appearance.

EFFECT

Both extreme coating films could show early deterioration and rusting.

ATTACHMENT #3

Saran (MIL-L-18389) gave excellent protection to steel at shallow depths. Only slight pinpoint rusting and blistering were noted after 4 years of exposure. At 6,800 ft an unscribed panel showed no deterioration, but the scribed panel had medium blistering near the scribe and rusting at the scribe after 4 years of immersion.

Vinyls have provided good protection at shallow depths for 2 years. At 6,800 ft an unscribed panel showed no deterioration, but the scribed panel had considerable lifting of the coating near the scribe area after 2 years.

Soft coating materials, such as coal tar and asphalt, do better in deep-ocean environment than at shallow depth because of the absence of barnacle attack and penetration.

It was concluded from these experiments that at a depth of 6,800 ft considerable hydrostatic pressure was exerted on the coatings, causing lifting or blistering at the scribe. Coatings less than 0.013 in. thick did not perform satisfactorily at this depth, but those over 0.013 in. thick performed well.

Metallic Coatings

Method of Protection. Plating or metallic coatings applied uniformly and continuously, free of galvanic couples, pores, or breaks, would behave like the solid metal. However, certain deficiencies develop, and cells or couples do exist. Once applied and at ambient temperatures, the coating metal is either anodic to the base metal, as in the case of zinc on iron or steel, or cathodic, as with copper, lead, or tin on ferrous metals.

The use of metallic coatings for the protection of marine surfaces is based on the above modes of performance. Anodic metallic coatings protect the underlying structural metal by cathodic protection, changing exposed areas from anodes to cathodes.[44] As a result, the metallic coating dissipates by dissolution. When it is nearly used up, its protective ability is decreased, especially at distant points. When it is depleted, areas where couples or cells exist start showing active corrosion.

Metallic coatings that are cathodic to the base metal should be used with extreme caution, since pores or cracks permit active corrosion, which results in pits and eventual perforation of the structure. In plating steel with nickel, for example, a nonporous and continuous metal layer is essential. In some instances, the article or small sections coated cathodically with a noble metal may be immersed in seawater before actual use to locate pores or cracks. These deficient areas are easily seen, as they become filled with corrosion products from the base metal. The spots can be cleaned and the metal coating repaired.

The practical approach for marine surfaces appears to be to use metallic coatings in conjunction with organic (or certain inorganic) protective coatings. These topcoats act as barriers and remove the metallic coating from direct contact with the destructive environment. Such coatings lessen the dissolution of anodic metallic coatings and ensure long useful life, at the same time providing cathodic protection when required (similar to cathodic-protection systems that utilize coatings along with an impressed current).

In the case of cathodic (noble) metallic coatings, organic coatings can prevent the attachment of fouling organisms that may cause the formation of oxygen-concentration cells and ultimate corrosion of the metal. For example, stainless-steel sonar domes not protected with an antifouling paint system accumulate calcareous growth such as barnacles, which in time promote corrosion; this action extends to actual perforation of the stainless steel under each barnacle through oxygen-concentration-cell action. The use of an antifouling organic-coating system on the stainless-steel dome ensures long periods of use without fouling and corrosion. However, antifouling paints containing cuprous oxide cannot be applied directly to a steel surface, since extensive pitting and corrosion result from the deposition of copper metal and the formation of active galvanic cells. Here the standard procedure is to separate the antifouling paint from the metal by a barrier anticorrosive coating. Formulations with organotin toxics, such as tributyltin oxide, create less or no corrosion. Organic barrier paints also can protect metallic coatings from anodic deterioration from stray currents.

START

Zinc Coatings. The anodic nature of zinc makes it capable of cathodic protection to steel in seawater, and it has been used for many years to prevent rusting. Hot-dip galvanizing (MIL-Z-17871) is used to protect thin-gage steel plates for submarine superstructures and ship topside structures. Bilge surfaces and voids are galvanized to provide added corrosion protection. Hardware such as nuts, bolts, washers, brackets, and braces is galvanized to promote longer useful life.

For marine surfaces not immersed in water, zinc metallic coatings, such as galvanizing, may last for years. Zinc would provide long years of protection on the decks of ships if it were not for the fact that it becomes very smooth and hazardous, and nonslip topcoats are required for safety.

The zinc metallic coating can be considered a large zinc anode that wastes away in seawater to provide corrosion protection to bare-steel areas resulting from damage or "holiday" painting. Fouling protection, however, is only for short periods, depending upon the incidence of fouling and the amount and nature of the corrosion products formed on the surface. The most efficient use of a zinc coating underwater is to topcoat it with organic protective coatings, including antifouling paints. Adhesion to zinc can be a problem unless there has been prior chemical etching, weathering, or abrasive blasting. A successful approach in improving adhesion of coatings to zinc is the use of a wash primer, MIL-P-15328, formula 117.

Once galvanizing is depleted or damaged because of anodic action, burning, welding, or abrasive blasting, the repair of these areas is difficult. In some cases flame-sprayed zinc has been applied to areas where galvanizing was damaged or depleted. This is a slow and costly process, and it leaves a porous film that is very reactive to moisture. Effective touch-up painting of damaged galvanized areas is done with coatings containing zinc dust. The performance of such zinc coatings is so excellent that today they are often used as replacements for galvanizing.

Inorganic zinc coatings have been evaluated and placed on the qualified-products list of MIL-P-23236. Tests have shown that (1) a hydrolyzed tetraethyl orthosilicate zinc coating of 92.2 percent by volume of zinc in the dry film approaches but does not equal the cathodic-protection properties of a zinc anode; (2) inorganic zinc formulations are a little more effective than the organic formulations; and (3) postcured inorganic-silicate types are a little more effective than the self-cured types.

Zinc-rich coatings as a replacement for zinc anodes[65,67] must necessarily provide cathodic protection at a distance. However, as a substitute for galvanizing[67] they need not operate at any significant distance.

Cadmium Coatings. Cadmium, which is similar to zinc in chemical properties, is electronegative to iron or steel[68] and will cathodically protect such surfaces in a galvanic cell. The potential difference between cadmium and iron is less than that for zinc and iron. Therefore cadmium does not protect as large an area of exposed iron as does zinc. Cadmium darkens less than zinc and does not form bulky white corrosion products as readily. It can be more readily soldered without the use of corrosive fluxes. Unlike zinc, which is applied to steel successfully by hot dipping, cadmium coatings are applied by electroplating.

Steel plates coated with 0.0002 and 0.0005 in. of cadmium and zinc were exposed at the severe marine atmosphere at Kure Beach, North Carolina, and in an industrial-marine atmosphere in New York.[69] The results of the test showed that zinc-coated specimens were slightly better in New York than the cadmium specimens, but the cadmium was found to be several times more effective in protecting steel than zinc at Kure Beach. Salt-fog tests have shown cadmium to be more effective than zinc.[69] In salt-fog tests one test piece of two anodized aluminum castings bolted together with zinc-coated steel bolts and washers was subjected to the salt fog for 240 hr. The anodizing did not prevent general macrocorrosion on the surface of the aluminum panels. The zinc-coated washers and bolts showed corrosion. Also, there was anodic corrosion under the washer area on the aluminum panel. Apparently the steel of the bolt was exposed and formed the active steel-aluminum galvanic cell.

Another test unit consisted of two anodized aluminum castings bolted together with cadmium-coated steel bolts and washers. This unit was also subjected to the salt fog for 240 hr. The cadmium plating offered more protection to the aluminum than the zinc in the previous test specimen. Furthermore, there was only a slight amount of corrosion of the cadmium on the bolts and washers, furnishing good protection at the

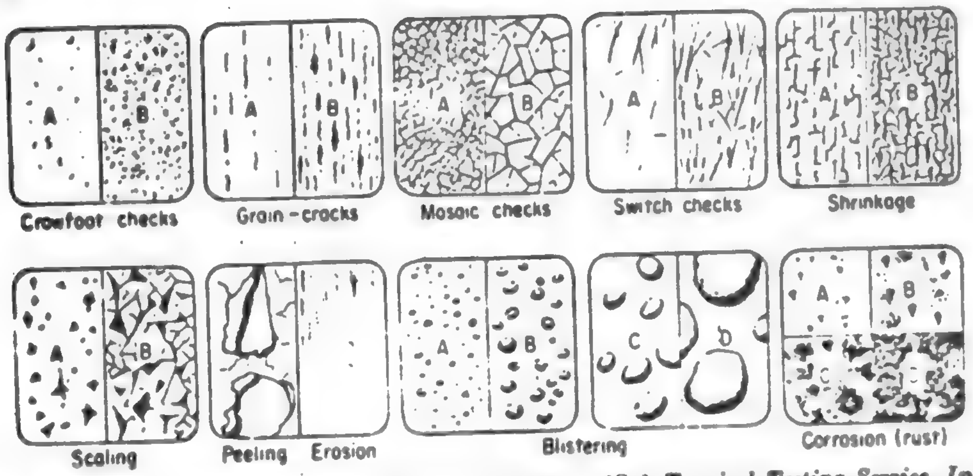

Fig. 7-18 Typical forms of physical coating failures. (*Sub Tropical Testing Service, Inc.*)

548A), 15 volumes of xylene (TT-X-916), and 5 volumes of benzene (VV-B-231A) at a temperature of 70 to 90°F.

3. Hot-seawater immersion: Following fuel immersion, immerse panels totally in hot synthetic seawater* for 2 hr at 175°F.

4. Hot-seawater spray: Following the hot-synthetic-seawater immersion, place each panel within a suitable closed container and opposite a 3/16-in. spray nozzle set at a distance of 2½ ft from the panel face. At a nozzle pressure of 25 psi, spray each panel dead center with a blast of hot (175°F) synthetic seawater for a period of 10 sec.

Note: Operations 1 to 4 constitute one complete test cycle. This cycle is repeated, and coating deterioration is reported after each complete cycle.

If the coating is still satisfactory after 20 cycles, wipe the panel lightly with a soft cloth and fresh water, allow 48 hr for it to dry thoroughly, then recoat the central upper third of one side of each panel, masking the portion from the edge to ½ in. inward, with one coat of the finish coating of the coating system. Allow 1 week of dry time and complete the immersion test with five additional test cycles; inspect the coating for failure.

Cathodic-protection Coatings

Standardized tests for evaluation of cathodic-protection coatings have not been established. However, the tests described below[46] have been proposed and could become a part of a final U.S. Navy specification.

Zinc-rich Mastic as a Substitute for Zinc Anodes. Test panels with zinc-coated, area/bare-area ratios of 1:5 or 3:5 are made of ⅛-by-6-by-18-in. sandblasted mild steel. The back side, the edges, and most of the front surface are adequately protected from corrosion with 0.006 in. of vinyl anticorrosives formulas 117 (MIL-P-15328B) and 119 (MIL-P-15929B). The unpainted face areas are 1-in. squares located at the centerline along the length of the panel and spaced at 3-in., 6-in., 9-in., and 15-in. distances. The various zinc-rich paints are applied to a 1-in. square or to three 1-in. squares at the top of the panel as anodes, with a zinc-metal anode installed on one of the panels as comparison control. The panels are immersed in brackish water for about 1 month and rated according to the number of bare-steel 1-in.-square areas that were protected from corrosion. The zinc-rich coatings tested by this method were based on hydrolyzed tetraethyl orthosilicate, inorganic silicates, and organic binders. Although the results of the evaluation showed that no zinc coating matched the efficiency of the zinc anode in preventing corrosion at a distance, various degrees of cathodic protection were displayed. The test results are summarized in Table 7-29.

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* 4½ oz of Sea-Rite per gallon of water, Lake Products Company, St. Louis, Mo.

TABLE 7-29. Protection Based on Number of Bare 1-in. Squares Cathodically Protected

Panel	Coating of zinc by vol. in dry film, %	Protection, %
1	44 (inorganic)	40
2	76 (inorganic)	55
3	82.6 (inorganic)	57
4	88.8 (inorganic)	65
5	92.2 (inorganic)	77
6	95 (organic)	45
7	90 (organic)	37
8	85 (organic)	37
9	Postcured	50
10	Self-cured	32
11	Postcured	43
12	Self-cured	32
13	Postcured	55
14	Self-cured	50
15	Zinc anode	100

Note: Panels 1, 2, 3, 4, 5 are hydrolyzed tetraethyl orthosilicate zinc laboratory formulations. Panels 6, 7, 8 are organic laboratory formulations. Panels 9, 10, 11, 12, 13, 14 are commercial products.

Zinc-rich Coatings as a Substitute for Galvanizing.[65,67] The test panels with zinc-coated-area/bare-area ratios of 27:1 or 27:2 are ⅛-by-9-by-18-in. sandblasted mild steel. The front and back are divided in half, giving two 9-by-9-in. areas. On the face side ¼-in. diagonal-scribe areas are left unpainted. The top area receives the zinc coating, while the bottom half of the panel receives the zinc coating plus one coat of formula 117 wash primer (MIL-P-15328B) plus one coat of formula 119 vinyl red-lead primer (MIL-P-15929B). The back side is prepared similarly, except the scribed unpainted areas are ½ in. wide and the bottom half of the panel is coated with only formula 119 (without the 117). The panels are immersed in brackish seawater for about 3 months, after which time they are removed, dried, rated, and photographed. The panels are then left in the atmosphere so that the effects of moisture on the scribed areas as well as on the zinc coating may be noted.

The performance ratings assigned are based on the following parameters:

1. Film characteristics of the zinc coating (calcareous deposits, cracks, blisters, checking, corrosion, breaking through, etc.)
2. Corrosion resistance and degree of cathodic protection provided the bare scribe areas (amount of calcareous zinc salt deposits)
3. Adhesion of topcoats (formula 119 with and without formula 117)
4. Film-barrier characteristics of deposits in scribe as well as the zinc coating itself on prolonged atmospheric exposure

Holiday V Screening Test. In this test, ⅛- by 10- by 12-in. mild-steel plates with zinc-coated-area/bare-area ratio of 4.5:1 are used. A V-shaped scribe[70,71] is marked in the middle of the panel and left unpainted; the adjacent areas are painted with the zinc coating. In addition, one of the adjacent areas is coated with formula 117 (MIL-P-15328B) wash primer, and the lower half of this area is topcoated with formula 119 (MIL-P-15929B). This arrangement, besides providing information on topcoating of the zinc coating, also provides a vernier identification of the cathodic-protection properties, since on immersion in seawater the wide areas usually show corrosion before the narrow, or tip, of the V. Figure 7-16 illustrates three degrees of performance related directly to zinc content and the corresponding cathodic protection.

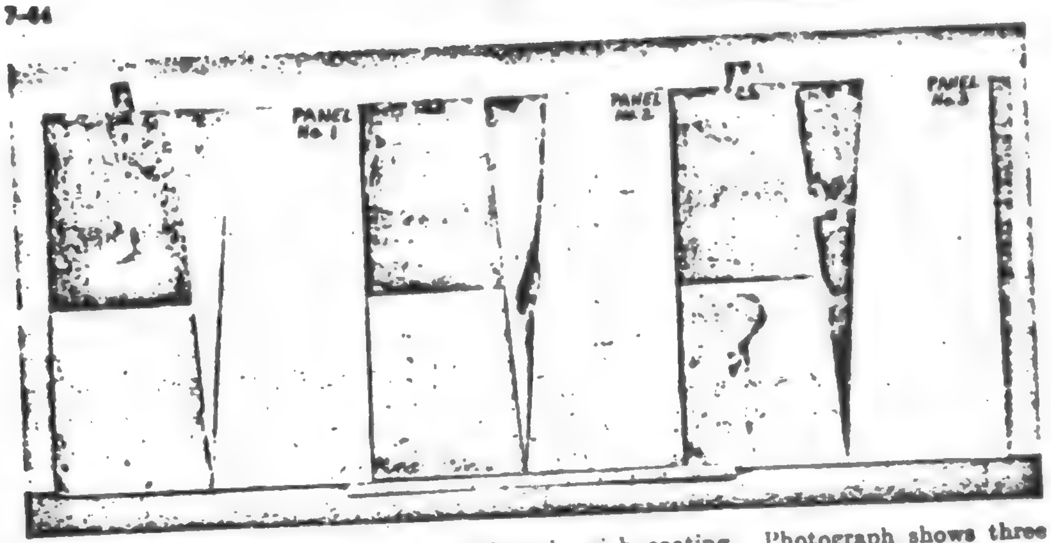


Fig. 7-16 *V*-holiday method of evaluating zinc-rich coating. Photograph shows three degrees of performance. Panel 1 shows very good cathodic protection of the V bare area. The panel 3 zinc coating is unsatisfactory; the *V* is completely rusted because of having received insufficient cathodic protection. (*U.S. Navy.*)

The test is critical enough to show visual performance differences between postcured and self-cured inorganic zinc silicate coatings and appears to be a useful screening method for evaluating zinc coatings in the laboratory.

Bullets, Bobs, or Rods. This screening test utilizes a bullet-shaped rod (zinc-coated-area/bare-area ratio of 1:1) ¾ by 5 in., tapered at both ends, with a heavy copper wire soldered to one end as an electric lead. Two such rods are required for a test cell or unit. Only one rod is coated with zinc paint. The exposed zinc surface is further defined by coating the tapered ends with formula 119 red-lead vinyl (MIL-P-15929B). The second rod is left bare and electrically connected to the first rod, thus forming an external circuit outside the seawater or 3 percent salt solution immersion a container. The initial evaluations were made after 20 hr of immersion, at which time voltages of each cell were taken and the coated and bare rod examined. In a typical case, at the 20-hr period all bare rods connected to zinc-coated rods and impressing a voltage of at least +0.2 V showed no corrosion. Cells where the voltages were less

TABLE 7-30. Cell Voltage and Appearance of Bare Rod

Panel	20-hr voltage, V	Appearance of bare rod
Postcured commercial (A) inorganic zinc coating	+0.0128	Completely rusted
Self-cured commercial (A) inorganic zinc coating	−0.213	Completely rusted
Postcured commercial (B) inorganic zinc coating	+0.290	No change
Self-cured commercial (B) inorganic zinc coating	+0.274	No change
Postcured commercial (C) inorganic zinc coating	+0.115	Light rusting
Self-cured commercial (C) inorganic zinc coating	+0.047	Completely rusted
Postcured commercial (D) inorganic zinc coating	−0.031	Completely rusted
Self-cured commercial (D) inorganic zinc coating	+0.038	50 % rusted
Postcured commercial (E) inorganic zinc coating	−0.053	Completely rusted
	+0.0103	Completely rusted
48.3 % zinc by volume	+0.34	No change
66 % zinc by volume	+0.37	No change
75 % zinc by volume	+0.35	No change
78.8 % zinc by volume		

than +0.2 V showed various degrees of rusting. Minus voltages resulted in early rusting of the bare rods. Table 7-30 gives a typical summary of voltages and the appearance of the bare rods.

Panels and Rods. This test procedure utilizes a zinc-coated rod and a small panel, on the surface of which is a bare area equal to only one-tenth the surface of the coated rod. The rod and panel are held 1 in. apart, externally connected with a heavy copper wire, and immersed in a beaker of seawater or 3 percent salt solution. By using this 1:10 bare-area/coated-area ratio, small differences in the cathodic-protection properties can be distinguished. This test is a very selective method, spreading the time to failure over a longer period, since the ratio of zinc-rich-coated area to bare area is relatively high. This ratio permits screening of two coatings that vary only 4 percent in zinc-pigment volume in the dry film.

APPLICATION AND INSPECTION OF PAINT COATINGS

The special care and study devoted to formulating an effective protective coating and meticulous care in preparing and treating a marine surface can be fruitless if the application is faulty. A "holiday" may result in localized and concentrated corrosion at that spot and possibly weaken the material; a minute miss in applying antifouling paint on the bottom of a ship may be the beginning for the attachment of many square feet of tubeworms. Therefore very careful attention must be given to proper application of the coatings.

Planning

Planning is a most important step in preparing for proper paint application. The following guides can enhance the effectiveness of a good paint and a well-prepared surface to obtain maximum performance:

1. Complete understanding of the coating and the application instructions. The supervisor should obtain the necessary information well in advance of the job and put it into practical and useful form. It is helpful when using a new coating to have the manufacturer's representative present, if possible, to give technical guidance during the coating application.
2. Educating the applicator. This entails giving the applicator practical instructions and ascertaining that all essential details are understood.
3. Follow-through. The supervisior must follow the job through, checking for any deviations from the instructions or for unforeseen circumstances that could affect the final paint job.
4. Quality-control inspection. Frequent quality-control inspections are essential during the progress of the work. It is not enough to inspect only when the work is completed, although the final thickness of the coating is important.

Multiple Coats

For economic reasons compromises may need to be made in the number of coats required for satisfactory protection of a marine surface. Unless cathodic protection is provided by anodes, impressed current, or zinc-rich coatings, a single coat of paint can hardly be expected to yield total coverage over irregular or difficult-to-see surfaces. Two coats of distinguishably different colors of any protective coating is the absolute minimum for 100 percent coverage. Even with two coats there is a risk of incomplete coverage, since quality inspection must locate any skips or holidays. An overall statistical certainty of a "good paint job" is provided by a minimum of three coats, with enough contrast between the color of each coat to permit good coverage. A light-gray color should never be used as a first coat on a sandblasted surface, since there is not enough contrast to permit good application. Also, for coatings that contain solvent, multiple thin coats rather than fewer thicker coats permit the maximum release of solvent.

QUESTION

A. What would be the evidence and effect of:

5. Excessive agitation?

ANSWER

Even though inorganic zinc primer composition is a rather heavy material, agitation within the spray pot can be sufficiently powerful to move quite a mass into motion; perhaps not as easy as whipping cream, however, excessive agitation of the Rust-Ban 191 can introduce sufficient air to cause the material to fluff-up and become foamy.

When such a material is sprayed, an erratic material pick-up results producing a spurting type of application, because of the random distribution of trapped air voids and solid matter. When the "voids" are delivered and sprayed, a porous film results. This then is bordered by denser material. The surface may also show a mottled or spotty appearance.

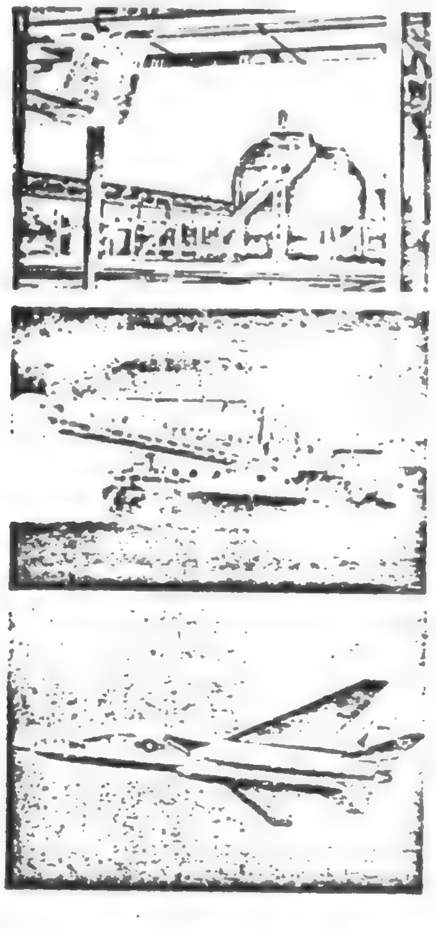
EVIDENCE

The evidence of excessive agitation of the Rust-Ban 191 while it is in the spray pot is an erratic spray application, the resulting sprayed film having a mottled or spotty appearance. (Of course, this is all before cure solution Rust-Ban 195 is applied.)

EFFECT

The areas of porosity will be subject to premature rusting of the steel below.

Prevent Corrosion and Erosion everywhere.



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after 55 days. Coatings with a low zinc pigment volume (80% by weight) failed to stop corrosion.

Mild Steel Rods

(Zinc Coating Area: Bare Steel)
(1:1)

Still another screening test method utilized a mild steel rod, ¾ inch by 5 inches, tapered at both ends with a heavy copper wire soldered to one end as an electrical lead. (Two such rods are required for a test cell, or unit.) Only one rod was coated with the zinc paint. The exposed zinc surface was further defined by coating the tapered ends with red lead vinyl. A second rod was left bare and electrically connected to the coated rod. The cell or unit was then immersed in brackish water.

The initial evaluations were made at 20 hours at which time voltages were taken (Keithley Model 610 Electrometer) of each cell and the coated and bare rods examined. At the 20-hour period, all bare rods that were connected to coated rods, impressing a voltage of at least 0.2 volts, showed no corrosion. Voltage values less than 0.2 showed various degrees of rusting. Minus voltages resulted in early rusting of the bare rods.

These early tests showed that the critical zinc volume to give adequate cathodic protection was between 48 to 66%.

Four laboratory formulations were modified by using zinc chromate pigment to increase barrier protection by supplying chromate ions, which lowered the cathodic protection properties. The zinc volume of the dry film was reduced by the introduction of the zinc chromate, but the content should have provided satisfactory cathodic protection.

Mild Steel Panels

(Zinc Coating Area: Bare Steel)
(10:1)

In this test, performance was related both to voltages and current generated by coated panels. At zero hours, all units showed a plus 0.3 to 0.55 volt. At 24 hours, all values showed a drop.

The initial currents also were measured at this time by a Hewlett-Packard Clip-on d-c Milliammeter, Model 428B. The values ranged from 0 to 0.9 milliamps. The currents were again measured at the end of 48 hours, all values showing a drop. At this point, it was interesting to note that most of the bare areas had been coated over with the zinc salt deposit. Also one cell showing no current and a negative voltage permitted the bare area on the panel to corrode 50%. When the voltages were low or negative, and the current was zero or reversed, corrosion was active.

At the end of three days, no additional corrosion occurred. At the end of seven days, one panel showed 40% rusting of the bare steel area. The voltage was —0.0272 and current 0. in the dry film of 44.7%. (This same paint has failed every other screening test and can be tagged as a fine tracer.) Other laboratory coatings with 60% or more zinc volumes showed good cathodic protection properties.

At the end of nine days, another panel showed 25% corrosion of the bare area. The voltage was —.0268 volt and the current was zero. This coating, a laboratory formulation with a zinc pigment content of 48.3% by volume in dry film, provided two more days of cathodic protection than the above coating with a zinc volume of 44.7%. The original 48-hour "ruster" had corroded 90%.

At the end of 16 days, another panel showed 25% rusting. The voltage was —0.296 and the current was —0.05 milliamps. At the end of 36 days, more cells with low voltages and currents had corrosion on the bare area on the panel.

This test spread the time to failure over a longer period of time, and was capable of selecting the performance of two coatings varying in zinc pigment volume by only 4%. No doubt, this particular test will be considered for inclusion in the Navy's specifications for zinc coatings for exterior decks and replacement for galvanizing.

Design of Zinc Rich Coatings

The cathodic protection properties of zinc coatings approach those of zinc metal. The more zinc that gets into the paint film, the better the cathodic protection property. However, a tough binder is needed to hold large amounts of zinc dust in a good coating. If the zinc reacts chemically to produce nonmetallic zinc, the cathodic protection property will be reduced, but some zinc must be exchanged to produce a durable film.

The problem then, is to build the highest zinc volume in the coating film while retaining durability properties. Organic zinc coatings must have zinc dust in sufficient quantities to cause physical contact between particles. The organic binder usually has a high dielectric strength and electrical conductance through the binder is impossible. So, the circuit must be completed through contact of zinc particles.

Certain organic formulations are about 80% by weight of zinc dust based on the total wet paint, or 90-95% by weight based on the dry film. R. H. Chandler states that the better yard stick is the volume content of zinc in the dry film rather than the weight.[3] The amount of cathodic protection depends upon the weight of zinc, but the zinc is not available unless it is in electrical contact, which is assured if the volume of zinc in the dry films is known.

The specific gravity or density of the binder relates to the pigment volume of the zinc dust in the dry coating film. Munger infers that the performance of various organic coat-

J. R. Saroyan
Paint Laboratory, Mare Island Divis.
San Francisco Bay Naval Shipyard
Vallejo, California

Laboratory Tests and Design Problems

Zinc Rich Coatings as Replacements for Galvanizing in Naval Applications*

SUMMARY

Describes procedures and results of laboratory tests of organic and inorganic zinc rich coatings. Zinc rich coatings are a possible replacement for galvanizing. Problems in designing the zinc rich paints are also discussed.

HOT DIP galvanizing has been used by the U. S. Navy to protect surfaces and hardware from corrosion. In all applications, however, once the galvanizing was damaged by anodic action, burning, welding, or abrasive blasting, the repairing of the damaged areas became a problem. Zinc rich coatings, which were sometimes used to repair the damaged areas, have shown such promise that they have been seriously considered as a replacement for galvanizing.

Ethyl silicate zinc dust paints were tested under the Navy's program, Paint Coating Systems for Fuel and Saltwater Ballast Steel Tanks, and performed excellently. Although these formulations were not suggested for ship tank service, because of their low flash point, they were found to be possible replacements for zinc anodes and galvanizing. Thus, tests were devised to learn how good a replacement the zinc rich coating would be. The coatings were based on hydrolyzed tetra ethyl orthosilicate and inorganic silicates. The inorganic silicate coatings included both post-cure and self-cure types. Other organic zinc coatings were used for comparison.

Zinc Coatings to Replace Zinc Anodes

The coatings were first tested as a possible replacement for zinc anodes. Laboratory panels of sandblasted mild steel, ⅛-inch by 6-inch by 18-inch, were protected from corrosion by six mils of a standard Navy anticorrosive paint system, leaving five, unpainted one inch squares every three inches along the center line of each panel. A zinc anode installed on one of the panels and a bare area on another were used as controls. After the zinc rich paints were applied to the anode areas, the panels were immersed in brackish water for a month. The panels were then rated according to the number of unpainted squares that were protected from corrosion.

Although the tests showed that no coating was effective enough to replace zinc anodes, most of the zinc coatings did show some degree of cathodic protection. The test method is a possible verification and identification test to measure the cathodic protection response of a sample paint.

For zinc rich coatings to replace zinc anodes, they must promote cathodic protection at a distance. However, they need not operate at any significant distance to replace galvanizing.

Zinc Rich Coatings as a Substitute for Galvanizing

(Zinc Coating Area: Bare Steel)
(27:1 and 27:2)

The test panels were ⅛ inch by 9 inches by 18 inches sandblasted mild steel. The front and back sides were divided in half. On the face side, diagonal scribe areas ¼ inch wide were left unpainted. The tops were painted with zinc coating. The bottom half of the panel received the zinc coating plus one coat of wash primer and one coat of red lead vinyl. The back side was prepared similarly except the unpainted areas were ½-inch wide and the bottom half of the panel was painted only with red lead vinyl.

The zinc coatings included a laboratory series of zinc-hydrolyzed tetra ethyl orthosilicate, organic zinc for comparison, and commercial inorganic zinc coatings.

After the panels were immersed in brackish seawater for about three months, they were examined and given performance ratings based on four parameters: (1) film characteristics during immersion (calcareous deposits, cracks, blisters, etc.); (2) corrosion resistance and degree of cathodic protection of bare or scribe areas (amount of calcareous deposits in scribe area); (3) adhesion of top coats (red lead vinyl with and without wash primer); and (4) film barrier characteristics after removal from immersion test, while in the atmosphere (corrosion, etc.).

Observations were based on performances while the test panels were immersed and when they were taken out and allowed to remain in the atmosphere.

This test, acceptable as a screening method for zinc rich coatings, showed that zinc rich coatings are effective replacements for galvanizing and can serve as corrosion protective coatings. Good properties of cathodic protection, adhesion of red lead vinyl with or without the wash primer, and surface profile roughness promoting mechanical adhesion were shown by certain of the coatings. The film barrier characteristics offered corrosion protection to the steel when subjected to poor conducting, or nonelectrolytic, conditions, i.e., the atmosphere. Sufficient zinc compounds were deposited to give some protection to the scribe area.

Holiday "V" Screening Test

(Zinc Coating Area: Bare Steel)
4½:1

Another experimental screening test was based on the "V" holiday or scribe, which Munger has used in his various evaluation.[1, 2] The "V" shaped scribe was marked in the center of ⅛ inch by 10-inch by 12-inch mild steel plates and left unpainted. The adjacent areas were painted with the zinc rich coating. One of the adjacent areas was coated with wash primer and the lower half of this area topcoated with vinyl red lead primer. The panels were immersed in brackish water for 19 days.

This arrangement permits a vernier identification of the cathodic protection properties, because the wide areas normally show failure before the narrow or tip of the "V" does.

The wash primer gave added barrier protection and perhaps provided some chemical passivation to the film surface by furnishing phosphate and chromate ions. Also, it chemically promoted adhesion. The vinyl red lead over the wash primer completed a topcoat system for the zinc rich coating for possible underwater use. Most panels with self-cured inorganic zinc coatings corroded in 19 days. Panels with postings is directly related to the specific gravity or density of the binder.[1, 2]

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*A revision of a paper "Inorganic Zinc Coatings in the U. S. Navy" presented at the Western Region Conference, National Association of Corrosion Engineers, Phoenix, Ariz., October 28, 1964.

Munger further shows histori[illegible] performance for the organic zinc ri[illegible]oatings, and concludes that inorganic coatings perform better.

In the design, the specific gravity of the binder must be considered when the critical zinc volume is determined. The size, shape, chemical nature of the zinc dust, and the current and voltage that the coating can produce must be considered. Also, where the zinc coating is to be topcoated, a rough profile is highly desirable. In reviewing ship evaluations of inorganic zinc coatings, uses other than for tanks were explored. As a result, these coatings will be used for replacing galvanizing and for exterior decks. In addition, a Naval project has been planned to prepare specifications to cover zinc coatings for these applications. Another project will prepare specifications for well-through primers in which zinc coatings would be included as one type.

Conclusions

Zinc coatings, especially the inorganic types, are here to stay. Although little data on the organic zinc coatings are available, they do exist and engineers should recognize their potentials. Zinc coatings will be used extensively for ship exterior topside surfaces and have limited usefulness for underwater surfaces. With successful topcoats to assure longer useful life, I see no obstacle in specifying zinc coatings for the primer system for an entire ship.

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J. R. SAROYAN graduated from the University of California, Berkeley, with BS in chemistry, and has worked at Mare Island since 1937. Currently, he heads the Paint Laboratory and directs research and development coating projects. He has received the Distinguished Civilian Service Award and is a member of NACE, Seahorse, and Naval Technical Supervisors, and he is the Naval liaison for the Tanker Corrosion Research Project of the American Petroleum Institute Division of Transportation.

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3. Approval by the chairman of the unit committee of the application or by majority vote of committee members by letter ballot is necessary for appointment of an applicant to membership in a unit committee.

4. Chairman of the unit committee will notify each applicant on his acceptance or rejection.

QUESTION

A. What would be the evidence and effect of:

6. Premature exposure to rain? (Before 24 hours elapsed.)

ANSWER

Rust-Ban 191 inorganic zinc primer consists essentially of an alkali silicate (lithium silicate) and zinc pigment (zinc dust). Since the lithium silicate is water soluble, a chemical change has to be initiated to make it insoluble. This insolubilization process can be brought about by neutralizing the alkali silicate. This process can be accelerated by using phosphoric acid, which in the case of Rust-Ban 191 is the post curing agent. By adding (spraying on) the phosphoric acid, the lithium silicate is neutralized and a complex derivative is formed between the steel, the zinc and the neutralized lithium silicate. With proper cure time, this reaction is completed and a normally insoluble coating results.

If the applied Rust-Ban 191 coating plus the phosphoric acid curing agent is subject to rain, depending on the state of cure, the rain can wash away any of the water soluble materials that remain such as the lithium silicate and phosphoric acid. Washing away some of the vehicle or binder (the lithium silicate) leaves the rest of the coating with increased pigment (zinc), but with weakened binding or cementing. As a result of this the coating can deteriorate with premature rusting breaking-through.

EVIDENCE

The evidence of insufficient cure time before the applied Rust-Ban 191 is subjected to rain, is a surface that has a blotchy appearance or contains areas stained as water marks.

EFFECT

The effect of early rain attack on the coating is deterioration of the physical durability because of lack of water resistance. Ultimately, rust will break through.

QUESTION

A. What would be the evidence and effect of:

7. Excessive atomization pressure?

ANSWER (See Chart #1 under A.11, for co-factors, etc.)

This condition is co-related to other factors that cause the same effect: (1) Insufficient pot pressure and (2) Holding the gun too far from the surface. Excessive atomization pressure is caused by having the air pressure too high.

Here, the pot pressure is set and a specific amount of Rust-Ban primer is delivered to the spray gun. At this point, use of excessive air causes excessive or over-atomization. This produces the deficient dry spray which exhibits an unsatisfactory applied coating. This so-called "dry spray" produces "dry particles" which may stick to each other but which do not have enough fluidity to level off. The applied film thus is coarse and porous. In the spraying of the Rust-Ban, the applied material does not properly "wet" or flow-out, which is necessary for good film formation and adhesion.

EVIDENCE

The evidence of excessive atomization (as results also from insufficient pot pressure and holding the gun too far from the steel surface) for a set pot pressure, is an applied coating that is granular, dusty and porous.

EFFECT

The effect of such a coating film is that it permits moisture penetration and thus provides means for other aggressive factors to finally cause corrosion of the basis steel.

QUESTION

A. What would be the evidence and effect of:

8. Excessive pot pressure?

ANSWER (See Chart #1 under A.11, for co-factors, etc.)

This condition is co-related to insufficient atomization pressure. It produces the same effect. (Also holding the gun too close to the surface.)

Here the atomization pressure is set and the pot pressure is elevated. In the previous situation, the pot pressure is set — with a certain delivery of material— and the atomization pressure is varied to an insufficient setting.

All three spray deficiencies or mal-adjustments (see Chart #1 A.11 for complete schematic) result in producing the same kind of coating film. There results a "flooding" appearance where the vehicle seems to separate and layer over the pigment. A further response is that the surplus vehicle is blown into hills and valleys to produce the rough or wavy surface commonly called "orange-peel".

EVIDENCE

As related previously for insufficient atomization pressure, the evidence of excessive pot pressure is the production of a coating that has an "orange-peel" appearance, or other forms of surface waviness.

EFFECT

The effect of such a coating is that it can lose adhesion because of the layering and non-homogeneous distribution of pigment and vehicle. With loss of coating, rusting will set in.

QUESTION

A. What would be the evidence and effect of:

9. A phosphoric acid curing solution pH below 1.0 applied at (a) 400 sq.ft. per gallon (b) 250 sq.ft. per gallon (c) 800 sq.ft. per gallon (see transparencies)

ANSWER

The function of the phosphoric acid curing agent is to enter into chemical reaction with the alkali silicate binder, lithium silicate, of the Rust-Ban inorganic zinc primer. The criterion is to utilize just that amount of phosphoric acid that will stoichiometrically neutralize or react with the lithium silicate; and promote the formation of the resistant and insoluble iron-zinc-silicate. (See attachment #5, page 1297, last paragraoh, --"iron-zinc-lead-silicate complex --". The lead included as part of this composition.) The general chemical reaction is given below:

$$3\ Li_2\ Si\ O_3 + 2\ H_3\ PO_y = 2\ Li_3\ PO_y + 3H_2\ Si\ O_3$$

Any excess phosphoric acid will react with the zinc and iron to form zinc and iron phosphates and; any amount insufficient will leave some of the lithium silicate "un-neutralized." The excess phosphoric acid besides reacting with the zinc (and iron) to form phosphate, will also generate hydrogen gas. This could at some instant cause blistering.

In applying the correct amount of phosphoric acid to the applied Rust-Ban, the chemical reaction that takes place, may nominally be said, is to neutralize the lithium silicate, forming first a silicic acid type of material; and then the net structure forming an insoluble complex of iron-zinc-silicate. The lithium phosphate white residue then can be washed away with fresh water.

In the case of applying too little phosphoric acid, the above reaction takes place up to the limit of what phosphoric acid is present. There remains then unreacted water soluble lithium silicate.

In the case of applying too much phosphoric acid, the suggested reaction takes place, all of the lithium silicate being neutralized (reacted) and then the excess phosphoric acid reacting stoichiometrically with the chemical equivalent amount of zinc (plus iron); and forming zinc (and iron) phosphate. Also in this reaction, hydrogen gas is liberated.

In attempting to establish the proper amount of phosphoric acid required to initiate the proper chemical reaction of just neutralizing the lithium silicate may be a little involved and complicated. Some assumptions may have to be accepted. This will be demonstrated a little further along, in review of some calculations. However, at this time, it may suffice to say, for the recommended film thickness of 3 mils dry film of Rust-Ban 191 over the tops of the peaks over a surface with a profile of 1 1/2 - 2 mils, the resulting film thickness of Rust-Ban will vary from 3 mils on the peaks to 5 mils from the valley floors to the level of the coating surface. Obviously, an exact amount of phosphoric acid for these two thicknesses (amounts of Rust-Ban 191) cannot be determined and separately applied. An established working practical amount designated by the manufacturer of the Rust-Ban primer should be used as the guide. (See Attachment #6)

> Further information from "Naval Ships Technical Manual - Chapter 9190, Preservation of Ships in Service (Paints and Cathodic Protection) January 1970, page 41" requires "Where white powder and crystals formed during curing has to be removed, removal shall be accomplished within 24 hours after application of the curing solution by flushing with fresh water.

Another fact for consideration is to clarify the two scopes or sequences of curing that may apply for the Rust-Ban inorganic zinc primer 191. First of all, Rust-Ban 191 as such has been approved under MIL-P-23236 as a self-cure type. Also 191/195 Rust-Ban has been approved as a post cure type.

It follows then, that Rust-Ban 191, being of itself self-curing, exhibits the necessary chemistry to cure in the proper atmosphere. When the humidity is too high or an accelerated cure is desired, a phosphoric acid solution can be used as the accelerator.

The following explanation and chemical reactions are given for the self-curing of the Rust-Ban 191:

First of all, lithium silicate exposed to the atmosphere with some humidity goes through a hydrolysis process:

$$Li_2\,SiO_3 + 2H_2O = 2\,LiOH + H_2\,Si\,O_3$$

This reaction or successive dehydration reactions must be hindered apparently in high humidity, since curing does not take place. This then (high humidity) is one of the reasons to accelerate the cure by applying phosphoric acid solution.

A possible sequence in forming the desired cured inorganic zinc coating is the dehydration related reactions:

$$\underset{\substack{\text{Silicic}\\\text{Acid}}}{H_2\,Si\,O_3} \xrightarrow{\text{Dehydration}} H_2O + \underset{\substack{\text{Silica or}\\\text{Silicic Acid}\\\text{Anhydride}}}{Si\,O_2}$$

A presentation will be made below to illustrate possible calculations for the amounts of phosphoric acid curing agent that are required for certain amounts of lithium silicate and thus the amounts for the applied Rust-Ban 191.

Assume first an elementary chemical reaction as follows:

(A) $Li_2\ SiO_3 + 2H_2O = 2Li\ OH + H_2\ SiO_3$

This is the atmospheric hydrolysis of lithium silicate to form lithium hydroxide and silicic acid.

(B) $3Li_2\ Si\ O_3 + 2H_3\ PO_4 = 2\ Li_3\ PO_y + 3\ H_2\ Si\ O_3$

Lithium Meta Silicate	Ortho Phosphoric Acid	Lithium Phosphate	Silicic Acid
Molecular Weight 89.96 Say 90	Mol.Wt. 98		

This is the reaction with phosphoric acid.

For both reactions (A) and (B), successive reactions take place via dehydration to finally form the complicated zinc-iron-silicate complex.

From reaction (B), it is shown that for every 270 parts by weight (3 x 90) of lithium silicate, 196 (2 x 98) grams of 100% phosphoric acid are required to neutralize it.

In estimating some sort of average amount of lithium silicate that is present per unit surface of Rust-Ban 191 applied coating, so as to determine the amount of phosphoric acid required, let us go through another exercise with calculations.

From Enjay Chemical Company information on Rust-Ban inorganic coatings (see Attachment #6), the following pertinent information is summarized:

1.	Weight per gallon, Rust-Ban 191		27.5 pounds
2.	% volume solids		62.2 %
3.	Coverage per gallon, Rust-Ban 191,	at 3 mils	332 sq.ft.
	Theoretical:	at 5 mils	199 sq. ft.
4.	Coverage for Rust-Ban 195 curing solution per gallon		200 % of Rust-Ban 191 coverage
5.	Weight per gallon of Cure Sol - 195		9.8 pounds

Other pertinent information:

6. Weight per gallon of water	8.3 pounds
7. 1 gallon = 3785 milliliters	
8. Specific gravity of ortho-phosphoric acid - 100%	1.834

A. Calculations

To identify the amount of phosphoric acid theoretically required to neutralize or react with the lithium silicate as indicated in the chemical reaction below: (It is assumed that the prevailing reaction is this. Of course, some phosphoric acid could react with the zinc as well as the steel.)

(1) $3\ Li_2\ Si\ O_3 + 2\ H_3\ PO_y = 2\ Li_3\ PO_y + 3\ H_2\ Si\ O_3$

Lithium Silicate Molecular Weight = 89.96 or say 90	Phosphoric Acid Mol.Wt. = 98	Lithium Phosphate	Silicic Acid
Total reaction weight 3 x 90 = 270	2 x 98 = 196		

It takes 196 parts by weight of 100% phosphoric acid to completely react with 270 parts by weight of lithium silicate.

For every unit weight of lithium silicate 0.726 weight units of phosphoric acid are required.

From the Enjay literature, the recommended amount of Rust-Ban 195 curing solution is 0.5 (one-half) gallon per gallon of Rust-Ban 191. (200% of spreading rate of Rust-Ban 191.)

B. Calculations: Sequence

1. Weight per gallon of Rust-Ban 191	27.5	pounds
2. % volume solids	62.2	%
3. % water volume is 100 - 62.2	37.8	%
4. Weight of water in a gallon of Rust-Ban 191 (8.3 x .378 = 3.14)	3.14	pounds
5. Weight of Rust-Ban 191 solids (27.5 - 3.14 = 24.36)	24.36	pounds
6. Zinc content of solids is 85%. It follows the lithium silicate is 15% of 24.36 (24.36 x .15 = 3.65) or 3.65 pounds.	3.65	pounds

7. From the unit factor relationship and the chemical reaction (1):

It requires 2.65 pounds of phosphoric acid (100%) to react with 3.65 pounds of lithium silicate.

(Lithium silicate: Phosphoric Acid
1 : .726 (3.65 x .726 =)
3.65 : 2.65 (2.65)

8. 1/2 gallon of Rust-Ban 195 cure solution is recommended for 1 gallon of Rust-Ban 191.

9. 1/2 gallon of cure solution weights 4.90 pounds, (1/2 of 9.8 from Enjay literature). or 2225 grams.

10. 1/2 gallon = 1893 milliliters (1/2 x 3785)

11. 2.65 pounds phosphoric acid (100%) = 1203 grams or 656 milliliters. (1203 ÷ 1.834 = 656)

12. The volume of phosphoric acid in 1/2 gallon (1893 milliliters) cure solution is 656 milliliters. The rest is water or 1237 milliliters or 1237 grams.

13. Our derived weight of 1/2 gallon of cure solution is as follows:

Weight of Water	-	1237 grams
Weight of Phosphoric Acid	-	1203 grams
Total		2440 grams

14. The derived weight per 1/2 gallon of cure solution 195 is 2440 grams versus 2225 grams for the actual literature weight.

15. Because the actual spreading rate of Rust-Ban 191 is less than the theoretical value used in calculations, the agreement of the derived 1/2 gallon cure weight would be much more in line with the actual weight. Assuming 90% actual spread rate for Rust-Ban 191, considering loss through waste, the derived cure solution would be almost identical to the Enjay literature value:

2440 Less 10% = 2440 - 244 = 2196 grams

This is very good agreement: 2196 vs 2225

RECAP:

Further, the spreading rate of Rust-Ban 195 curing solution as recommended by the Enjay Company (review Attachment #6, here) is substantially correct: This is 1/2 gallon per gallon of Rust-Ban 191. The Spreading rate of Rust-Ban 191 (theoretical) is 332 sq. ft. at 3 mils dry film and 199 sq.ft. at 5 mils dry film per gallon. However, on a practical basis, taking wastage into consideration, these values should be reduced about 10%. The practical spread rate then would be about 300 sq.ft. at 3 mils dry film per gallon.

In the previous pages, it was pointed out that because of the profile varying 1 1/2 - 2 mils, the valleys would have above them, the 1 1/2 - 2 mils of Rust-Ban 191 plus the 3 mils required above the peaks or a total of 4 1/2 - 5 mils.

Utilizing the total practical spreading rate of 1 gallon of Rust-Ban 191 as 300 sq. ft. at 3 mils dry film, a partitioning of this amount between 3 mil areas, over profile peaks, and 4 1/2 - 5 mils above valleys would result in the following distribution:

a. 300 sq. ft. at 3 mils = 200 sq. ft. at 3 mils plus
100 sq. ft. at 3 mils

b. 100 sq. ft. at 3 mils = 200 sq. ft. at 1 1/2 mils

c. 200 sq. ft. at 3 mils plus
200 sq. ft. at 1 1/2 mils = 200 sq. ft. at 4 1/2 mils

d. Assume for convenience most of the valleys will be 1 1/2 mils in profile, then the overall practical estimate of spreading rate for Rust-Ban 191 per gallon is 200 sq. ft. then on the rate of 1/2 gallon of Rust-Ban 195 curing solution per gallon of Rust-Ban 191, the optimum application rate of Rust-Ban 195 curing solution is over 400 square feet of applied Rust-Ban 191, per gallon of 195 cure solution.

The attached Rust-Ban literature (Attachment #6) summarizes the application information as follows:

a. "While Rust-Ban 191 is certainly self-curing product, it has the unique advantage that it can be rapidly cured with an accelerator. Either way, post- or self-cured, the significant chemical and physical properties of the cured Rust-Ban 191 film are essentially the same. When it is desirable to accelerate the self-curing properties of Rust-Ban 191, Rust-Ban 195 curing solution provides superior results and should be used."

b. "When post-curing Rust-Ban 191, the film should be surface dry before the curing solution is applied. This is dependent on climatic conditions but a one-hour dry time is usually sufficient. The Rust-Ban 195 should then be applied in a "mist coat" at a rate of about 0.50 gallon to one gallon of Rust-Ban 191. It is important that the curing solution completely wet (wets) the surface but the use of excess Rust-Ban 195 does not further accelerate the cure."

c. "A post-cured Rust-Ban 191 film will have a slight amount of white "salt" deposition that must be removed before top coats can be applied. This salt deposit is very much less than that formed, for example, with a post-curing inorganic zinc such as Rust-Ban 190. Removal of the deposits is easily accomplished with minimal amount of water washing. No scrubbing is necessary unless a considerable excess of Rust-Ban 195 has been used."

d. "Rust-Ban 195 curing solution used at the rate of 200% of Rust-Ban 191 coverage. i.e. 332 sq.ft. at 3 mils dry film and 199 sq.ft. at 5 mils dry film (theoretical)."

It must then be concluded as follows:

(1) Enjay gives proper spreading rates for 195 curing solution, but does not distinguish that an excess may be harmful.

(2) Further, a "mist coat" may not identify the requirement that the curing solution completely wets the Rust-Ban (applied) surface.

(3) The use of a minimal amount of water washing and no scrubbing to remove the surface salts may leave the surface with a thin residue of salt deposit. Enjay does recognize that scrubbing is required if an excess of cure solution was used.

SUMMARY

EVIDENCE:

1. Curing solution at 250 sq. ft. (of applied Rust-Ban 191) per gallon of 195 cure solution:

ANSWER:

From the gathered information, this "spreading rate" is low, resulting in the use of too much cure solution; too much 195 should show a heavier deposit of white salts.

2. Curing solution at 400 sq. ft. of applied Rust-Ban 191 per gallon of 195.

ANSWER:

This appears to be the proper spreading rate. There should be a "slight" amount of surface salt deposits.

3. Curing solution at 800 sq. ft. of applied Rust-Ban 191 per gallon of 195.

ANSWER:

This rate is too high and there would not be enough phosphoric acid to neutralize or react with the lithium silicate. There would be very little or if any surface salt. What there may be could be hidden in the normal porosity of the 191 inorganic zinc coating.

EFFECT

(1) 250 sq. ft.

This condition would show premature rusting of the steel. The phosphoric acid would completely react with the lithium silicate and with whatever zinc (and iron) would equal the chemical equivalent. A very weak coating film would result (perhaps powdery) which would permit easy moisture penetration as well as physical deterioration of the Rust-Ban 191 coating. There would be rust breakthrough.

(2) 400 sq. ft.

This condition would show no film deficiencies normally — at least at early times. However, environmental conditions or factors could promote deficiencies at a later date. Initially only a small amount of salt deposits would be present.

(3) 800 sq. ft.

This condition would promote premature rusting because of not completely neutralizing or reacting the lithium silicate. At high humidity and rain, the unreacted lithium silicate would dissolve and ultimately be removed. The Rust-Ban coating would diminish in thickness and possible rust breakthrough would result. Even though Rust-Ban 191 is self-curing, under high humidity and rain, the normal hydrolysis and dehydration reactions to form the zinc-iron-silicate complex are impaired.

TRANSPARENCIES

COMMENT

The transparencies sent me of an installed part of the Fremont Bridge show an obvious excess of curing solution. There is visible deposits of salts and premature rust breakthrough. The sequences for this condition have been described previously in this text.

ATTACHMENT #5

change in color or leafing properties. The strontium chromate should be ground in the vehicle before mixing in the aluminum pigment (18, 21).

Metal Lead Primers. Metal lead powder and paste pigments are described in Chapter 22. Because lead is more noble than iron, it should incite rather than inhibit the corrosion of iron. Surridge (31) claims this applies only to lead in the massive form and that lead in finely powdered condition (less than 1 μ) behaves as a sacrificial anode to iron. If this is true, metal lead pigments should be used in high concentrations like the zinc-rich primers, but this is not done usually. The primers referred to by Surridge contained other pigments beside metal lead, and the formulas given later contain a relatively low percentage of metal lead.

Formula 24. Red Lead–Metal Lead Primer and Second Coat*

	(*a*) Primer	(*b*) Second
Red lead paste (7% Linseed oil)	100 lb	100 lb
Metal lead paste (10% Mineral spirits)	15 lb	9 lb
Raw linseed oil	2.0 gal	1.7 gal
Mineral spirits	0.19 gal	...
Turpentine	...	0.44 gal
Drier	0.125 gal	0.125 gal
Lampblack paste	...	To tint

* Courtesy Metalead Products Corp. (54).

Metal lead pigments produce a very dense coating with low permeability and good durability. They form soaps in paint vehicles which are considered an important factor in retarding corrosion (31). Powdered lead oxidizes readily when exposed to air and is reactive with peroxides and materials such as turpentine. Metal lead pigments are available from the Metalead Products Corporation (54) in paste and powder form. Formula 25*a* and *b* illustrate the use of metal lead with red lead. Additional suggestions are available (54) for mixed pigment primers in which metal lead is used in the range of 10–15% by weight of pigment.

These formulas conform to the State of California, Highway Department Specifications for primer and second coats. A typical exterior aluminum paint is suggested for the third coat for structural steel maintenance. Lampblack is added to the second coat to change the color sufficiently to obtain better application over the first coat. It is difficult to understand why turpentine is required in the second coat, particularly since this material is somewhat reactive with finely powdered lead.

START

Inorganic Coatings. The passivating treatments discussed in Chapter 24 are inorganic coatings but are not generally referred to as such because they are not applied by the usual coating methods. Galvanizing is another example of an inorganic coating used for the protection of steel. Zinc also may be applied by a hot-spray process using an oxyacetylene flame to melt the zinc before atomizing for spraying. When applied in thicknesses of 3–4 mils, zinc coatings give good protection for about five years in industrial atmospheres and about two years immersed in sea water. Zinc provides cathodic protection to the steel, but the zinc compounds formed in the process inhibit the corrosion reaction and prolong the life of the coating. The type of reaction was referred to previously under zinc-rich coatings.

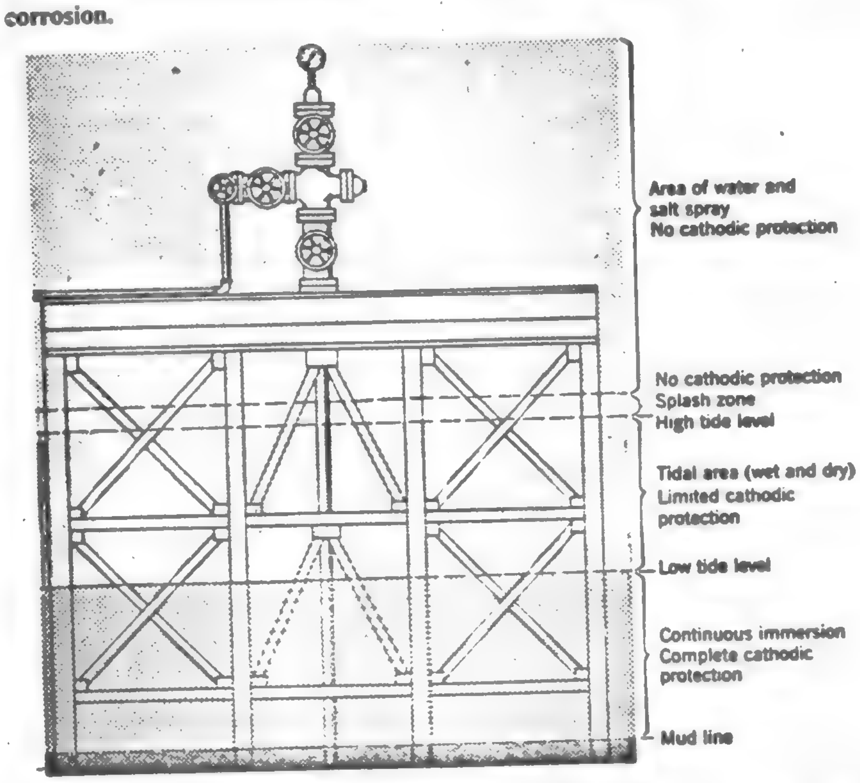
Smith & Gelfer (38) point out that zinc forms stable reaction products in the pH range of 6–12.5. A saturated solution of CO_2 in water has pH of 4.5; therefore the corrosion rate of zinc in aqueous exposures may be increased due to the presence of dissolved CO_2. High corrosion rates also are obtained in neutral or slightly acidic media containing sulfur dioxide, sulfates, nitrates, or chlorides. Zinc may be used to protect steel in marine locations because the alkaline condition of sea water inhibits the corrosive action of its chlorides on zinc.

The corrosive action of waters of low pH and high oxygen content may be controlled by use of soluble silicates. It appears that an inhibitive coating of insoluble iron silicate and silica is formed which protects the steel if the coating is maintained by continuous addition of silicate solution. The use of ethyl silicate for the protection of porous materials such as concrete and masonry is discussed in Volume I, page 594.

Water-soluble silicate paints for metals are described by Nightingall (39). He discloses a composition comprising metallic zinc and lead oxide dispersed in an aqueous solution of an alkali silicate, such as sodium silicate, with modifying chemicals. A commercial product of this general type is marketed under the trade name of Dimecote No. 3 (40). It is stated to consist of metallic zinc and lead dispersed in a soluble silicate matrix. The solid and liquid ingredients are packaged separately and mixed shortly before use. The mixture is sprayed on sand-blasted steel to produce a dry coating of 2–3 mils in thickness. The coating is air-cured by application of a solution of a phosphate in an organic solvent, or it may be cured by baking at 350° F for 1 hr.

The final insoluble coating has extremely good adhesion to the steel substrate and is believed to consist of an iron-zinc-lead-silicate complex chemically bonded together. The coating has fairly good flexibility and impact resistance and was superior in these respects to two coats of TT-P-86a red lead primer after 2000 hr in the Weatherometer or one year at 45° facing south in Florida in tests made by the writer. Excellent abrasion resistance was shown by the difficulty of making cuts through the coating for panels to be exposed in the salt-fog cabinet. Only slight corrosion developed at the cuts after 2000 hr in the salt-fog cabinet compared with mild to very severe corrosion for a series of conventional organic coatings containing inhibitive pigments. No blisters developed in the silicate coating itself during the salt-fog test, but blisters were formed in typical oleoresinous coatings applied over the silicate coating.

Fig. 1. Cathodic Protection and Organic Coatings on Off-Shore Structures. This drawing shows areas of a typical offshore structure which can be protected cathodically and those which must be protected with a coating. Area between low and high tide levels, as well as splash and salt spray zones, must be protected with a coating to prevent corrosion.


Area of water and
salt spray
No cathodic protection
No cathodic protection
Splash zone
High tide level
Tidal area (wet and dry)
Limited cathodic
protection
Low tide level
Continuous immersion
Complete cathodic
protection
Mud line

Courtesy Amercoat Corp. (40).

The writer recommended this silicate coating to prevent corrosion of the distributors on high-speed trickling filters in the sewage disposal plant of the University of Florida. The distributors are wetted continuously with sewage which has passed through the primary clarifier and has a pH of about 7. Previously the distributors were scraped and repainted with conventional paints two or three times a year to control corrosion. One year ago they were sandblasted and given one coat of the silicate paint, and there is no indication of corrosion to date despite continuous operation.

When the coating is immersed in water the temperature should not exceed 140° F, but in air the coating withstands continuous exposure to temperatures up to 500° F and resists brief exposures up to 700° F which is about the melting point of zinc.

Applications of this type of silicate coating to above-ground pipelines in Australia resulted in twenty years of protection in areas where brush fires occurred that would have destroyed regular organic coatings. For exposures such as normal atmospheric and marine humidity one coat is sufficient for adequate protection; but for sea-water immersion or for industrial atmospheres containing strongly acidic or alkaline fumes, it should be overcoated with an alkali-resistant primer and chemical-resistant top coats.

Panels finished with Dimetcote alone have been exposed for more than eight years about 50 ft from the seashore at the test station of the International Nickel Company, Kure Beach, North Carolina. At present there is no perceptible corrosion or deterioration of the Dimetcote coating.

The protection of off-shore drilling rigs and installations in the petroleum industry has posed difficult problems because protection is required over a long period of time, but it must be obtained with minimum maintenance and lowest cost in terms of cost per square foot per year of service. Such installations require cathodic protection in certain areas and also organic coatings over galvanized steel or steel coated with the Dimetcote type of material. The areas where cathodic protection can be used effectively are indicated in Fig. 1.

The vinyl type of primer and finish coats as discussed later have proven very effective over the zinc coating. The relative costs of hot-dip galvanizing versus zinc silicate coating and also finishing with vinyl coatings have been compiled in convenient form by Helms (103) as shown in Tables 7, 8, and 9. Of course, the actual cost for a specific installation may vary somewhat owing to geographic location or change in material costs with time. In addition, coatings other than the vinyl type may be used depending on the severity of the environment.

Another commercial product of this general type is marketed under the trade name of Carbo Zinc #11 of the Carboline Company (104). The mechanism of film formation varies from the conventional silicate in such a way as to permit cure and adhesion in moist atmospheres or where rain or salt spray may be encountered within an hour after application. Also, application can be made at temperatures as low as 0° F.

The inorganic vehicle, identified as mixed silicon oxide polymers, is mixed with the zinc dust at the time of application, which forms a polymer of increased molecular weight which is subsequently hardened by a complex reaction with the zinc and iron. The curing of this film is

Table 9. Per Annum Costs for Coating Typical Structural Steel

Item	Case 1, Zinc Silicate and 2-Coat Vinyl		Case 2, 3-Coat Vinyl	
Assumed life	20 Years	30 Years	5 Years	10 Years
Initial cost per sq ft	$0.76	$0.76	$0.69	$0.69
Estimated maintenance cost per sq ft:				
At 0.03 per yr	...	...	0.15	0.30
At 0.01 per yr	0.20	0.30	...	...
Repaint cost	0.30	0.45	...	...
Total cost per sq ft	$1.26	$1.51	$0.84	$0.99
Cost per sq ft per yr	$0.06	$0.05	$0.17	$0.10

accelerated by atmospheric moisture or immersion in water or brine. Thus, where fast hardening is required, a chloride curing solution may be brushed or sprayed over the coating. The physical properties of the film are quite similar to the sodium-silicate zinc dust coatings.

For appearance or reflection of sunlight, this coating may be overcoated with a number of finishes such as certain vinyl or oleoresinous materials. With an aluminum-pigmented silicone finish, this material has reportedly stopped rusting on steel stacks operating at 300–700° F for over a year, with frequent cooling periods during which moisture condensation normally causes rapid corrosion.

Titanium Ester Coatings. Titanium esters are discussed in Volume I, page 595, and a formula for a butyl titanate–zinc dust paint is given on page 597. A modification of this formula is given in a more recent article by Lidlow (41) as follows:

Formula 25. Butyl Titanate, Zinc Dust Paint

	Parts by Weight
Zinc dust, superfine	55.0
Wet-ground mica	2.5
Condensed butyl titanate (35% TiO_2)	23.0
Ethyl cellulose (10% solution)	2.5
White spirit	17.0

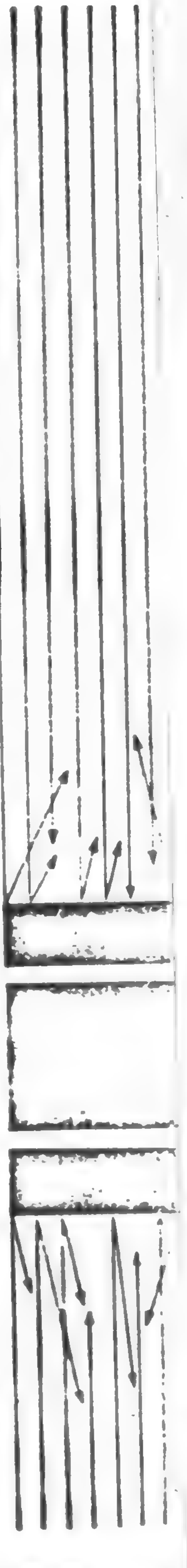
Lidlow (41) states that paints such as these provide considerable resistance to atmospheric corrosion combined with resistance to high temperatures. However, zinc melts at 785° F and oxidizes rather rapidly

ENJAY

ATTACHMENT #6

Rust-Ban® Inorganic Zinc Coatings

/for heavy-duty protection of steel surfaces



Rust-Ban 186 Green Shop Primer, 188, 190, and 191 are hard-drying coatings for maximum control of corrosion on steel surfaces. They are widely used to provide extra protection for steel structures, marine vessels and equipment, offshore installations, and heavy industrial equipment.

The significant difference between these four products lies in their curing characteristics. Rust-Ban 188 self-cures by the absorption of moisture from the atmosphere and the liberation of solvent from the applied film. Rust-Ban 190 is post-cured with a subsequent application of Rust-Ban 195, a curing solution. Rust-Ban 186 Shop Primer and Rust-Ban 191 both self-cure by the evaporation of water from the applied film; however, both products have the flexibility of being post-cured with Rust-Ban 195, if desired. This technique has been used successfully on thousands of square feet especially during periods of inclement weather. It has also been used merely as a means of hastening the curing reaction and shortening the time to application of subsequent topcoats.

All of the products are formulated with metallic zinc in a silicate vehicle, a combination whose corrosion protection and bonding characteristics have led to the designation of these products as "permanent primers."

Resistance to Exposure

Though outstanding as primers, these Rust-Ban inorganic zinc primers have the resistance to environmental effects such as that offered by high-quality finish coatings. They meet all of the ordinary requirements for severe service without topcoating. Where decorative colors or resistance to immersion or chemically-active materials are required, Rust-Ban 186, 188, 190 and 191 can be topcoated with Enjay recommended systems.

Other Properties

Rust-Ban 186, 188, 190 and 191 form hard durable films that combine exceptional abrasion resistance with good flexibility. These products do not contain lead and can be handled without the special precautions that apply to coatings that contain lead. Rust-Ban 186, 190 and 191 are completely non-flammable in the wet or dry states, thus they present no fire or explosion hazard. Rust-Ban 188 has a flash point above 80°F and the normal safety precautions for applying coatings in this flash point range should be exercised. Rust-Ban 190 and 191 comply with the requirements of military specification MIL-P-23236 (SHIPS), Type 1, Class 3, and they qualify under FDA regulation 121.2548 for the coating of containers handling low moisture food grade fats and oils.

Areas of Application

Rust-Ban 186, 188, 190 and 191 give protection both to the metal they coat and to the commercial fluids that may come in contact with them. As interior coatings for tanks handling high-purity products, these Rust-Ban products help maintain the purity of these products and their full specification quality. Their inertness, insolubility, and anti-flaking properties make these coatings particularly suitable for the lining of tanks that contain, for example:

selected dry bulk cargoes
automotive and aviation gasolines
selected vegetable and animal oils (edible and non-edible)
crudes with acid numbers below 0.4 or H_2S contents below 300 ppm
jet fuels
residuals
petroleum solvents
most petrochemicals
esters
petroleum waxes
distillates
asphalt
lube oils
ketones
ethylene
alcohols
white oils

and many other liquids of a similar nature. Contact your Enjay representative for specific recommendations.

Rust-Ban 186, 188, 190 and 191 systems are

not recommended for use in contact with strong acids or alkalis (reagents with pH values below 6.5 or above 10.0), chlorinated hydrocarbons, and crude oils with acid numbers above 0.4 or hydrogen sulfide content above 300 ppm.

More detailed information can be obtained from your Enjay representative.

Mixing and application procedure

The service life of Rust-Ban 186, 188, 190 or 191 is largely dependent on the care with which each is applied, a matter fully covered in the instructions which accompany each package. These coatings are two-part systems packaged in one-gallon or five-gallon containers. One container marked "A Liquid" contains the liquid vehicle; the other, marked "B Powder" contains zinc dust. The powder is thoroughly mixed *into* the liquid. At 70-90°F (21-32°C) the resulting mixed product has a pot life of 8-12 hours for Rust-Ban 188, 24 hours for Rust-Ban 190 and 120 hours (5 days) for Rust-Ban 186 and 191.

The prepared coating material should be sprayed only with the proper recommended application equipment (Refer to Service Data Section—"Spray Equipment for use with Rust-Ban Protective Coatings.") The coating should be applied to a surface which has been freshly blasted to near-white (SSPC-SP10-63) (S.S. Sa2½) or white metal (SSPC-SP5-63) (S.S. Sa3), depending on the ultimate exposure. For example, Enjay recommends a near-white blast for mild abrasion, general atmospheric exposures and where economy is a prime consideration. For severe atmospheric abrasion or immersion exposures, however, a white metal blast is recommended.

Rust-Ban 188 (self-curing), under normal conditions (50-95°F, 10-35°C air temperature — 50-90% relative humidity), will reach a water insensitive state within 20 minutes and may be topcoated in 12-16 hours.

With Rust-Ban 190, curing treatment may normally be applied within 1-2 hours after the film has dried (an even gray color is reached), at which time, it is sprayed with a coat of curing solution, Rust-Ban 195. After a curing period of 18-24 hours, the surface will have developed full resistance to the weather. Once the salts, formed by the curing reaction, and excess curing solution have been removed, Rust-Ban 190 can be topcoated or placed in service. (The salts and excess curing solution are usually removed by high pressure water, sometimes supplemented by scrubbing.)

Rust-Ban 186 and 191 — being self-curing — require no additional treatment. Under normal conditions (50-95°F, 10-35°C air temperature — 50-90% relative humidity), Rust-Ban 186 and 191 are water insensitive within one hour and can be placed in service or topcoated in 8-12 hours. Outside of these limits, curing may be faster or slower, depending on which extremity of weather prevails. Adverse weather conditions require special precautions outlined in the application instructions. Also, specific drying schedules for most weather conditions are outlined in the application instructions.

Post-curing of RUST-BAN 191 (or RUST-BAN 186)

a. While Rust-Ban 191 is certainly a self-curing product, it has the unique advantage that it can be rapidly cured with an accelerator. Either way, post- or self-cured, the significant chemical and physical properties of the cured Rust-Ban 191 film are essentially the same. When it is desirable to accelerate the self-curing properties of Rust-Ban 191, Rust-Ban 195 curing solution provides superior results and should be used.

One exception to this is when a polyvinyl chloride coating system (including a vinyl wash primer) is to be used in topcoating Rust-Ban 191. In this type of system, the acid component of the vinyl wash primer accelerates the cure of the Rust-Ban 191 sufficiently, so that the separate application of a curing solution is not required.

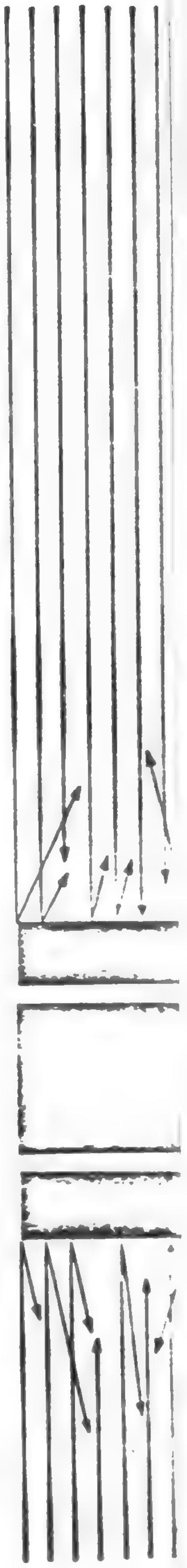
Vinyl wash primers, however, are sometimes unsuitable for other than polyvinyl chloride topcoat systems. Enjay Wash Primers, Rust-Ban VY 6528 (yellow, Y-1), for example, should age for 5 days before a Rust-Ban EX/EM system is used as the topcoating system. Therefore, in general, Rust-Ban 195 should be used as the accelerator for Rust-Ban 191.

b. When post-curing Rust-Ban 191, the film should be surface dry before the curing solution is applied. This is dependent on climatic conditions but a one-hour dry time is usually sufficient. The Rust-Ban 195 should then be applied in a "mist coat" at a rate of about 0.50 gallon to one gallon of Rust-Ban 191. It is important that the curing solution completely wet the surface but the use of excess Rust-Ban 195 does not further accelerate the cure.

c. A post-cured Rust-Ban 191 film will have a slight amount of white "salt" deposition that must be removed before topcoats can be applied. This salt deposit is very much less than that formed, for example, with a post-curing inorganic zinc such as Rust-Ban 190. Removal of the deposits is easily accomplished with a minimal amount of water washing. No scrubbing is necessary unless a considerable excess of Rust-Ban 195 has been used.

Topcoating Inorganic Zincs

Rust-Ban 186, 188, 190 and 191, as do all inorganic zinc coatings, form porous films on drying. This is a necessary facet to their mechanism of corrosion protection. It can, however, present some occasional problems when applying topcoats. However, Enjay has formulated a variety of suitable organic topcoats for these products. These include, generically: vinyls, epoxy (catalyzed), epoxy-based (one compartment), silicones, silicone acrylics, acrylics, phenolics, chlorinated rubbers, and polyvinyl emulsions (Aqua-Tone). For specific systems recommendations, refer to the individual product data sheets and to the Industrial and Marine Sections or consult your local Enjay Industrial Coatings Representative.



Typical coating systems

System	General Service (Industrial and marine incl. temp. to 750°F, 399 °C)	Long life System (decorative)	Cargo or Cargo/Ballast tanks
1st coat	RUST-BAN 191*	RUST-BAN 191*	RUST-BAN 191*
2nd coat	—	AQUA-TONE	RUST-BAN EX 6692
3rd coat	—	AQUA-TONE**	RUST-BAN EX 6692
4th coat	—		—
Total dry film	3-5 mils 76-127 μ	5-7 mils 127-178 μ	9-11 mils 229-279 μ

System	Marine — above and below water line		General Industrial and Marine Service	
1st coat	RUST-BAN 191*	RUST-BAN 191*	RUST-BAN 191*	RUST-BAN 191*
2nd coat	RUST-BAN EX 6692	RUST-BAN VM 6510	RUST-BAN EE 6566	RUST-BAN CR Finish
3rd coat	RUST-BAN EX 6692	RUST-BAN VY 6510	RUST-BAN EE Finish**	RUST-BAN CR Finish
4th coat	—	RUST-BAN VY Finish***	—	—
Total dry film	14-20 356-510 μ	7-10 178-254 μ	5-7 mils 127-178 μ	4-6 mils 102-152 μ

*RUST-BAN 186/188 or RUST-BAN 190/195 may also be used. Film thickness will be reduced approximately 1 mil (25 microns) due to lower film build (2-4 mils, 51-102 microns) with these products.

**RUST-BAN AK finishes may also be used in lieu of last coat.

***For under water service RUST-BAN VY 6504 (2 coats) should be used.

USTRIAL COATINGS DEPARTMENT

Enjay Chemical Company

8230 STEDMAN STREET, HOUSTON, TEXAS 77029

Typical inspections

	RUST-BAN 188 Self-curing	RUST-BAN 190 Post-curing	d. RUST-BAN 195 Curing Solution	RUST-BAN 191 Self-curing
Average weight, lb/gal kilo/gal	22.3 10.1	28.3 12.8	9.8 4.4	27.5 12.5
Average solids, vol %	52.0	58.0	—	62.2
Wet film/coat, mils microns	3.8-7.6 97-193	3.5-7.0 89-178	—	4.8-8.0 122-203
Dry film/coat, mils microns	2-4 51-102	2-4 51-102	—	d.→3-5 76-127
Coverage, sq ft/gal, m²/gal at recommended film thickness theoretical (no waste)*	416-208 38.6-19.3	464-232 43.1-21.6	75% of RUST-BAN 190 coverage d→200% of RUST-BAN 191 coverage	d→332-199 30.8-18.5
Flash point, °F °C	88 31	none	none	none
Viscosity, Krebs units	—	—	—	—
Dry time, hr, 50% R.H., 75°F, 24°C to resist moisture	10	—	—	½
to application of cure	—	2	—	—
dry hard after cure	—	18-24	—	—
Maximum sustained service temp. dry	750°F 399°C	750°F 399°C	—	750°F 399°C
wet	120°F 48.9°C	120°F 48.9°C	—	120°F 48.9°C
Pot life, hr (70-90°F) (21-32°C)	8-12	24	—	120
Application:	spray	spray	spray	spray
Recommended thinner:	RUST-BAN TH 6867	none	none	none
Surface preparation — severe service or immersion	White metal blast (SSPC-SP5-63) (S.S. Sa3)	White metal blast (SSPC-SP5-63) (S.S. Sa3)	—	White metal blast (SSPC-SP5-63) (S.S. Sa3)
— other	Near-White blast (SSPC-SP10-63) (S.S. Sa2½)	Near-White blast (SSPC-SP10-63) (S.S. Sa2½)		Near-White blast (SSPC-SP10-63) (S.S. Sa2½)

QUESTION

A. What would be the evidence and effect of:

10. The gun being held too close to steel?

ANSWER

Holding the gun too close to the steel surface produces the same effect as excessive pot pressure or insufficient atomization pressure. (See Chart #1 under A. 11, Spray Characteristics.)

EVIDENCE

The evidence is that all three spray characteristics or mal-adjustments - produce "flooding" of the surface with excess inorganic zinc primer which takes on an "orange-peel" surface texture or other waviness, being forced into "air ripples".

EFFECT

The effect is uneven coating film thicknesses over the steel surface. The valleys of the ripples, "orange-peel", will be thin spots, whereas the ridges or peaks will have excess thicknesses. The valley areas will show early rusting.

QUESTION

A. What would be the evidence and effect of:

11. The gun being held too far from steel?

ANSWER

Holding the gun too far from the steel surface produces the same effect as excessive atomization pressure and insufficient pot pressure. (See Chart #1 Spray Characteristics attached here.)

[Please note this schematic is original and I may want to copy.]

EVIDENCE

The evidence of all three of the mentioned spray factors (mal-adjustment factors) is that they produce dusty, granular, dry and porous films.

EFFECT

The effect is poor film durability characteristics which would promote premature rusting of the steel.

#

Form FHWA-121 (12-67)
UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
P.O. Box 300
Salem, OR 97308

TO : Mr. George M. Baldwin, Administrator of Highways
Salem, Oregon

DATE: September 5, 1972

In reply refer to: 10-35-DA

FROM : Mr. G. L. Green, Acting Division Engineer
Salem, Oregon

SUBJECT: I-405-8(20)303, I-405-8(22)304, I-405-8(23)304
I-405-8(24)304, I-405-8(28)303
East & West Fremont Interchanges
Stadium Freeway
State Force Order No. 4
Total Estimated Amount of the Order - $8,500.10
Federal Participation - $7,650.09

Reference is made to Mr. Young's letter of August 23, 1972, concerning the subject order.

We are approving the use of State Forces as being in the public interest under provision of PPM 21-6.2 for the following reasons:

1. The contractor is neither properly equipped nor staffed to perform the work contemplated under the order.

2. The State has the necessary special striping equipment and trained personnel to perform the work most economically.

Striping to be performed should be in conformity to the requirements of the Manual on Uniform Traffic Control Devices and will thus be eligible for participation under the provisions of Paragraph 6 of PPM 21-15.

Federal participation will be based on the agreed unit price for striping. The estimated total costs of the work to be done under this order is $8,500.10 with Federal participation of $7,650.09.

Enclosure
State Force Order No. 4

9-7-72

Young

RECEIVED
STATE HWY ENGR
SEP 7 '72
REFER TO
FOR

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

1859

UTILITY UNIT
OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310 Phone 378-6511

August 29, 1972

Burlington Northern, Inc.
P. O. Box 571
Portland, Oregon 97207

Re: Railroad Protective Insurance
West Fremont Interchange Sec.
Stadium Freeway, I-405
Multnomah County
Contract No. 7214

ATTENTION: H. F. Moy
Regional Manager Engineering

Gentlemen:

Reference is made to your letter of August 23, 1972, which requested information as to the status of the subject project.

The construction of this project is virtually completed with only cleanup and a few minor corrections to be accomplished. Renewal of the railroad protective insurance will not be required.

Very truly yours,

Jack M Cartwright
for T. W. Litchfield
Railroad and Utility Engineer

JMC:jc

cc: A. E. Johnson
H. S. Coulter
John Howard
Jack Hesla

RECEIVED
AUG 29 1972
OFFICE OF
A. E. JOHNSON
ASSISTANT STATE HIGHWAY ENGINEER

5

RECEIVED
[illegible] 1972
[illegible]

7214

August 25, 1972

TO G. L. Green, Acting Division Engineer
Federal Highway Administration

Federal-aid Project
No. I-405-8(20)303

FROM George M. Baldwin
Administrator of Highways

by ORIGINAL SIGNED BY
R. D. ASBURRY
L. H. Young
Programing Engineer

SUBJECT Request Change Order Approval

Contract 7214 Extra Work Order No. 18

Project West Fremont Interchange

Highway Stadium Freeway

County Multnomah

The order covers replacement of three Dresser couplings with Victaulic couplings on the dry fire mains. Tests indicate that the Dresser couplings are not capable of withstanding the water pressures involved, therefore requiring their replacement.

Attached are copies of letters from the Assistant Metropolitan Engineer and the Resident Bridge Engineer.

This work was tentatively recommended for approval by the Federal Highway Administration Area Engineer on August 4, 1972.

Your approval as of August 4, 1972 is requested.

Attachments

JK:js

STATE COPY

Johnson 5

FORM PR-33B
(REV. 3-68)

cc: OSHD (Johnson)
Region
Wash DC

7-214

7-11-72

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS

CONSTRUCTION INSPECTION REPORT

(PPM 20-6.1)

(Check appropriate box) ☐ Contact ☐ Project Stage Inspection ☒ Final Inspection pkw

Region No. 10	Report No. 31	County Multnomah	Division Oregon
Date of Inspection 8-11-72	Inspection Made By C. T. Christiasson, Area Engr		Project No. I-405-8(20)303

In Company With Ed Hardt, Metropolitan Constr Engr; Al Rear, Field Br Operations Engr; John Howard, Res Engr, OSHD.

Quality of Work* Satisfactory	Progress of Work Satisfactory	Time Elapsed 93 %	Work Completed 100 %

Report to Include: (1) Scope of Inspection (2) Summary of Findings, Recommendations, and Action Taken

*(*Not applicable for all Contracts.)*

AUG 22 1972

8-25-72

WEST FREMONT INTERCHANGE SECTION
STADIUM FREEWAY
Grading, Paving, Structures, Signing, and Illumination

OFFICE

With the exception of several minor cleanup and repair items, the project has been completed to the point where the contractor may be released from further construction activity. These minor items are expected to be completed within one or two days during which time the illumination system can be checked for proper functioning.

Prior to final acceptance of this project, several items must be resolved. Problems developed throughout the erection stages of the contract with the zinc prime coat thickness and adequacy. The prime coat was repaired, but determinations as to the responsibility and payment have not been resolved.

The contractor has submitted claims on several items. One item involves approximately $4,660 due to deck surface grinding; there appears to be no basis for this claim. Another alleges additional costs in connection with barrier rail installations near the modified expansion joints in the amount of $8,883. It was my understanding, at the time the price agreement was prepared for joint modifications, that additional costs in the barrier rail were included. A claim has been submitted on the "area-grading" item in the amount of $2,205 for which there seems to be no basis for payment. The area grading was covered under terms of the contract and performed accordingly. A claim has been filed for additional costs in impact attenuator installations inn the approximate amount of $10,000. The cost to the contractor increased subsequent to bidding the project; therefore, it may be possible to give some consideration to this claim. Another claim currently under consideration involves alleged extra costs in working near, and the protection of, power lines. The contract indicated that this matter would be taken care of by others. This claim involves approximately $3,000. A claim for added costs of pile driving, in the approximate amount of $100,000, is being considered by the Bridge division.

Materials and workmanship on this project are considered acceptable. The project records indicate no significant or unresolved problems involving labor compliance or EEO during the length of the project with one exception.

(more)

REPLACES PR 33A 3-65, WHICH WILL NOT BE USED

One labor complaint, processed through the normal channels some time ago, has not been resolved apparently due to insufficient personnel to schedule labor cases on a timely basis at higher governmental levels.

The final estimated cost of the project will be approximately $20,000,000 pending the outcome of previously mentioned claims. While final acceptance depends on the resolution of several issues, it is not considered necessary to further inspect the project.

RECEIVED
[illegible] 1972
FOR FILING
7211

August 3, 1972

Gordon C. Bjork, Ph.D.
President, Linfield College
McMinnville, Oregon 97128

Dear Doctor Bjork:

Below are the contract quantities of reinforcing steel for the Fremont Bridge and approaches. If you need more information, please contact us.

W. Fremont Approaches	14,457,000 lbs.
E. Fremont Approaches	2,712,700 lbs.
Fremont Bridge Substructure	1,950,000 lbs.
Fremont Bridge Superstructure	1,010,000 lbs.
Total	20,129,700 lbs.

Very truly yours,

George M. Baldwin
Administrator of Highways

By

F. B. Klaboe
Deputy State Highway Engineer

OMP:dh 1a

bc Tom Edwards
A. E. Johnson
Walt Hart

RECEIVED

FORM E-30
FOR FILING

En. Files

7311

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
July 28, 1972

SUBJECT: East & West Fremont Bridge
Approaches
Contracts 7214, 7310 & 7311
Inorganic Zinc Paint Problems

To: Leonard Lindas
Ass't. Attorney General & Counsel
Salem

I recently wrote to Enjay Chemical Company soliciting their comments with respect to our problems on the Fremont project regarding inorganic zinc primer. In response to this inquiry, attached you will find a copy of a letter from Enjay signed by Don Blue dated July 26.

The substance of this reply is that

1. The paint was applied properly and that the acid cure would not have adversely affected the zinc and

2. For use in the Portland area the inorganic zinc primer should have been protected with at least one coat of topcoat applied in the shop.

To the best of my knowledge, this is the first time that the Enjay Chemical Company has suggested that their inorganic zinc should have been protected prior to application of the vinyl finish coat. This letter is forwarded for your information and for whatever action you feel might be called for.

H. S. COULTER
Metropolitan Engineer

NOTED
A. E. JOHNSO

By:

ORIGINAL SIGNED BY EDWARD L. HARDT

EDWARD L. HARDT
Assistant Metropolitan Engineer

RECEIVED
AUG 1 1972
OFFICE OF
STATE HIGHWAY ENGINEER

EH:pb

Encs

cc: A. E. Johnson w/attach.
Walter Hart "
R. E. Shotwell "
John Howard "

NOTED

RECEIVED
JUL 31 1972
OFFICE OF
A. E. JOHNSON
ASSISTANT STATE HIGHWAY ENGINEER

ENJAY CHEMICAL COMPANY

ENJAY

[illegible]
[illegible]

METROPOLITAN ENGINEER
RECEIVED
JUL 2 8 1972
☐ ME ☐ AME ☐ AME ☐ MOE ☐ MDE ☐ MTE

July 26, 1972

Mr. E. L. Hardt
OREGON STATE HIGHWAY DIVISION
Metropolitan Section
5821 N. E. Glisan
Portland, Oregon 97213

Dear Sir:

This letter is in response to your letter of July 6, 1972 in which you solicited Enjay's opinion as to probable causative factors for the problems you have encountered with RUST-BAN 191 and 193 Inorganic Zinc Primer used on the Fremont Street Bridge.

I observed some of the coating application and conducted film thickness determinations at Canron's Vancouver Plant. I observed that the specified amount of coating was applied. Pittsburgh Testing Laboratory personnel, your agents, were constantly recording film thicknesses on the steel girders and their markings indicating adequate dry film thicknesses were quite visible. Also, the manner in which the girders were positioned during the coating operation would have, in my opinion, precluded the excess application of curing accelerator in a one coat application due to the viscosity of the accelerator and tendency to run off the steel.

Regarding exposure of the applied coating, the slow speed with which the steel girders moved through the coating operation would essentially preclude moving the steel girders into the elements before the coating was properly cured (except for the possible exposure of an end of a girder). As you are aware, application of the curing accelerator caused rapid curing of the inorganic zinc. Further, the girders were coated upside down and the interior of them wasn't exposed to the elements initially.

You mention the possibility of a hostile environment in Portland (chemicals in the air) along with flushing action of winter rains causing the zinc in the coating to sacrifice itself to protect the steel substrate (as the inorganic zinc coating is supposed to do). These are certainly probable causes of the problems you are experiencing. For example, I have observed and taken photographs of the same type of rusting on the steel pieces for the superstructure (coated with Mobilzinc #1). It is apparent that the zinc coatings used on the Fremont Bridge have undergone accelerated weathering, as it were, due to the nature of the environment. In environments such as this, it is a good practice to use a multi-coat topcoat system whereby at least one coat of organic topcoat is applied

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JUL 3 1 1972
OFFICE OF
A. E. JOHNSON
ASSISTANT STATE HIGHWAY ENGINEER

July 26, 1972

in the shop to prevent exposure of the zinc coating to severe fresh water washing action and/or chemical fallout. Such a practice was used by the State of California on the San Diego-Coronado Bridge and the San Mateo-Hayward Bridge and is more or less in general use there on inorganic zinc shop coated structures.

I trust these comments will be of some use to you. Please contact me if we can assist further.

Very truly yours,

D. R. Blue

D. R. Blue

DRB:hg

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7214

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

DATE July 24, 1972

TO
G. L. Green, Acting Division Engineer
~~R. E. Simpson, Division Engineer~~
Federal Highway Administration
Post Office Box 300
Salem, Oregon 97308

Federal-aid Project
No. I-405-8(20)308

FROM
George M. Baldwin
Administrator of Highways
ORIGINAL SIGNED BY
by R. D. ASBURRY
L. H. Young
Programing Engineer

SUBJECT Request; Change Order Approval

Contract 7214 Extra Work Order No. 17

Project West Fremont Interchange

Highway Stadium Freeway

County Multnomah

The Order covers applying a linseed oil treatment to seal the concrete decks on the project.

Attached are copies of a letter from the Assistant Metropolitan Engineer.

This work was tentatively recommended for approval by the Federal Highway Administration Area Engineer on July 11, 1972.

Your approval as of July 11, 1972 is requested.

Attachments

JK:kds

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7214

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

DATE July 24, 1972

TO G. L. Green, Acting Division Engineer
~~R. L. Simpson, Division Engineer~~
Federal Highway Administration
Post Office Box 300
Salem, Oregon 97308

Federal-aid Project
No. I-405-8(20)303

FROM George M. Baldwin
Administrator of Highways
ORIGINAL SIGNED BY
by R. D. ASBURRY
L. H. Young
Programing Engineer

SUBJECT **Request; Change Order Approval**

Contract 7214 **Extra Work Order No.** 16

Project West Fremont Interchange

Highway Stadium Freeway

County Multnomah

The Order covers clipping the flexible metalic conduit to the web of the girder on the under deck luminaire units and changing the conduit connection to the mounting bracket as required to improve the appearance.

Attached are copies of a letter from the Assistant Metropolitan Engineer.

This work was tentatively recommended for approval by the Federal Highway Administration Area Engineer on July 3, 1972.

Your approval as of July 3, 1972 is requested.

Attachments

JK:kds

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[illegible] 1972

OREGON STATE
HIGHWAY DIVISION
METROPOLITAN SECTION
5821 N. E. Glisan   Portland, Oregon 97213   Phone 229-6971

July 6, 1972

7-7

Enjay Chemical Company
8230 Stedman Street
Houston, Texas 77029

7-7-72

ATTENTION: Don Blue

Gentlemen:

Structural steel girders for the East and West Fremont approaches in Portland were painted with Enjay's Rust Ban 191 and 193 inorganic zinc primer in Vancouver, British Columbia and then shipped to Portland. After arrival in Portland about three months after the time the Rust Ban 193 was applied, the steel began to rust. Paint thickness readings taken at the time of the rusting showed film thicknesses in the order of one mil or less.

Canron Ltd., the steel fabricators and primer painters, maintain that the three mils of inorganic zinc specified was applied in their plant and that it somehow disappeared in the ensuing three month period. The purpose of this letter is to solicit your thoughts with respect to what could have caused this apparent paint film thickness loss. Our investigations indicate that one or more of the factors listed below may have contributed to this phenomenon:

1. The acid which was used for a curing accelerator may have been applied too heavily.

2. The freshly-painted girders may have been exposed to the winter-time elements before the paint had been properly cured.

Canron is contending that the supposedly hostile environment in Portland together with the exposure of the paint to flushing action of the winter rains has caused the Rust Ban 193 to sacrifice itself in a matter of several months to the point where it no longer protects the steel. As suppliers of the paint, we request your analysis of this problem as to probable causative factors. We would appreciate your earliest reply on this matter.

H. S. COULTER
Metropolitan Engineer
By:

ORIGINAL SIGNED BY EDWARD L. HARDT

EDWARD L. HARDT
Assistant Metropolitan Engineer

ELH:pb
BCC: A. E. Johnson
Leonard Lindas
Walt Hart

NOTED
A. E. JOHNSON

JUL 7 REC'D
aeg

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JUL 1 1972
FOR FILING

7214

July 6, 1972

Davies, Biggs, Strayer, Stoel and Boley
Twenty-Third Floor
900 S. W. Fifth Avenue
Portland, Oregon 97204

Attention: Richard A. Franzke

Gentlemen:

This is to acknowledge receipt of your letter of June 28 with affidavits concerning the status of several State Highway construction contracts.

Attached are certified copies of the contract and bond pages covering Contract Nos. 7214, 7310, 7311 and 7312.

We are also enclosing a tabulation sheet giving the percent completed, estimated completion date and percent paid as of May 31, 1972, covering the four contracts.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

By
C. W. Head, Assistant Secretary

CWH:dr

DAVIES, BIGGS, STRAYER, STOEL AND BOLEY
LAW OFFICES
TWENTY-THIRD FLOOR 900 SW FIFTH AVENUE
PORTLAND, OREGON 97204

TELEPHONE (503) 224-3380
CABLE ADDRESS: HARTPORT

CHARLES A. HART
DAVID L. DAVIES
HUGH L. BIGGS
MANLEY B. STRAYER
THOMAS B. STOEL
PAUL L. BOLEY
FREDERICK H. TORP
JAMES P. ROGERS
RICHARD DEVERS
GEORGE H. FRASER
WILLIAM W. WYSE
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ROBERT L. RIDGLEY
RICHARD A. FRANZKE
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DAVID P. MILLER
TERRENCE R. PANCOAST
HARRY S. CHANDLER
JIM D. KORSHOJ
HENRY H. HEWITT
WALTER C. MINNICK
JERE M. WEBB
RONALD S. GROSSMANN
LUCIAN J. CARSON
RICHARD E. ROY
JEFFREY MICHAEL ALDEN
MILTON R. STEWART
CHARLES F. HINKLE
K. PATRICK NEILL
ROBERT S. QUINNEY
JOY D. ABELE

June 28, 1972

Mr. Floyd Query, Secretary
Oregon State Highway Department
State Highway Building
Salem, Oregon 97310

Dear Mr. Query:

We are counsel for Canron Limited, which was subcontractor for furnishing structural steel on the following contracts:

West Fremont Interchange, Contract 7214,
Prime Contractor - Andersen-Hannan, Joint Venture

East Fremont Interchange, Contract Nos. 7310,
7311, 7312, Units A and B, Prime Contractor -
Drake-Willamette, Joint Venture

With respect to each of the above-mentioned contracts, please advise:

(1) The present status of the work in terms of a percentage of completion and the expected completion date and probable date of formal acceptance;

(2) The status of payments to the prime contractors as of May 31, 1972 in terms of percentage of the total anticipated payments under such contracts.

Enclosed herewith are affidavits by the undersigned pursuant to ORS 279.512 et seq. Please furnish certified copies of the contracts and bonds pertaining to the above-mentioned projects.

7/3
Sent copy to Vince G.
for Info -

Vic, I think Contract & bond pa[illegible]
6 thru 9 will suffice if identified
by contract no. J.K.

NOTED
FLOYD QUERY

NOTED
C. W. HEAD

Your assistance in these matters will be very much appreciated.

Very truly yours,

Richard A. Franzke

Richard A. Franzke

RAF:pm
Enclosures

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[illegible]

AFFIDAVIT

STATE OF OREGON)
) ss.
County of Multnomah)

I, RICHARD A. FRANZKE, being first duly sworn, on oath depose and say:

I am counsel for Canron Limited, a subcontractor under Andersen-Hannan, a joint venture, pursuant to a contract, No. 7214, for construction of the West Fremont Interchange, in Portland, Oregon, and I make this affidavit in support of Canron Limited's request for certified copies of the contract and bond pertaining to said project. Canron Limited has supplied labor and materials in connection with said project and has a claim therefor that has not been paid.

Richard A. Franzke

Subscribed and sworn to before me this 28th day of June, 1972.

Patricia A. McCabe
Notary Public for Oregon
My commission expires: 10-15-74

R[illegible]
STATE HIGHWAY COMMISSION

	(1) Percent Completed	(1) Estimated Completion Date	(2) Percent Paid To 5-31-72.
7214	99.5	7-31-72	98.6
7310	95.2	9-1-72	90.2
7311	98.5	9-1-72	95.6
7312	98.1	9-1-72	94.5

7-5-72
Jim Kinna

DAVIES, BIGGS, STRAYER, STOEL AND BOLEY
LAW OFFICES
TWENTY-THIRD FLOOR 900 SW FIFTH AVENUE
PORTLAND, OREGON 97204

TELEPHONE (503) 224-3380
CABLE ADDRESS: HARTPORT

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JEFFREY MICHAEL ALDEN
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K. PATRICK NEILL
ROBERT S. QUINNEY
JOY D. ABELE

FOR FI

7614

June 30, 1972

RECEIVED
JUL 3 1972
LEGAL

Mr. Leonard I. Lindas
Chief Counsel
Oregon State Highway Department
Salem, Oregon 97310

Dear Leonard:

Re: Fremont Bridge Zinc Primer

I've tried several times this week, without success, to reach you by telephone to determine the status of your review of the material we recently submitted. I know from our past conversations that you have been very busy and have been forced to delegate some of these things to other people. Nevertheless, as I'm sure you understand, my client is extremely anxious to get this whole matter resolved as soon as practicable. I think you are familiar with the background of the problem which contributes to Canron's feeling that the problem is not receiving as much attention as it should from those in whose hands the problem now rests; for the benefit of others who may not be familiar with that background, I will very briefly summarize the chronology of events.

The rusting through the primer was first noticed in February, 1971, nearly 18 months ago. Immediately Canron went to work seeking an explanation of the problem, and hired outside consultants to assist in that study. Canron subsequently made a specific recommendation it thought would avoid the rusting problem, i.e., application of a vinyl seal coat in the shop. The Highway Department first approved this solution, and then, without explanation, rescinded its approval. In the months following, although the State had retained its own consultant, it would never permit its consultant and Canron's to meet and deal directly in exploring the problem and arriving at a solution. Throughout this period and for months after, Canron conducted studies and investigations, counseled with numerous

JUL 3 1972

experts, and in general made an exhaustive effort to determine the cause and the appropriate solution of the problem. I think any objective observer familiar with the facts would admit that the other parties did precious little during this time to really get to the root of the problem.

Following those months of investigation and study, Canron presented to the State in February, 1972, a comprehensive statement of its position and the result of its investigation. In that presentation we tried to cover every aspect of the issue involving selection and application of the paint, analysis of the specifications, chronology of events, legal issues arising under the contract, etc. We invited critical review of that analysis. Several months later you asked for additional detail on two specific points on which, apparently, attention had been focused in the course of your review. On June 2 I submitted to you the additional information you requested and assured you we were willing to try to furnish answers to any other questions you might have. To date we have not been asked to submit any additional information.

While I do not in any way want to interrupt your orderly review of this problem, at the same time we are I think understandably becoming perturbed by the amount of time it is taking to get a statement of the Highway Department's position. After all, the Department has been aware of the paint problem as long as anyone. While it is true you have had personnel changes within the Department, we have also, and that is simply a fact of life we all have to live with.

I think you know, Leonard, from our conversations and from the material we have furnished, that I am completely confident Canron is not responsible for the failure of the zinc primer, and I have no doubt that you will eventually arrive at that conclusion, also, bearing in mind that we questioned the State specification from the very beginning. As I have told you, I have no desire particularly to start litigation to achieve a result that can as well be accomplished by all parties' sitting down together and reviewing the facts. On the other hand, we feel we have been both cooperative and patient to this point, and we would like now to see a final resolution of the problem.

Very truly yours,

Dick

Richard A. Franzke

RAF:pm

cc: Canron Limited
Attention Mr. Bruce Jackson

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JUN 20 1972

FOR FILI

7214

June 19, 1972

Andersen-Hannan
3427 N. E. Halsey Street
Portland, Oregon 97213

Gentlemen:

The State Highway Division has granted your request for a 29-calendar day extension of time without assessment of liquidated damages on Contract No. 7214 for Units B and C of the West Fremont Interchange Section of the Stadium Freeway in Multnomah County.

Very truly yours,

George M. Baldwin
Administrator of Highways

By

Tom Edwards
State Highway Engineer

bc: Federal Highway Administration
bbc: Floyd Query
F. B. Klaboe
L. H. Young
C. T. Keasey
W. J. Hart
H. S. Coulter
V. E. Skoog
John Howard
RJW;dh cg

A. E. Johnson

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JUN 20 1972

FOR FILING

OREGON STATE
HIGHWAY DIVISION

7214

HIGHWAY BUILDING • SALEM, OREGON • 97310

DATE June 19, 1972

TO Oregon State Highway Commission

FROM Tom Edwards
State Highway Engineer

SUBJECT

Extension of Time, Contract No. 7214
West Fremont Interchange Section
Stadium Freeway (I-405)

Andersen-Hannan, contractor for construction of the West Fremont Interchange Section of the Stadium Freeway in Multnomah County, Contract 7214, has requested an additional 29 calendar days in which to complete the contract work without assessment of liquidated damages on Units B and C. The contractor cites extra work required under Price Agreement No. 15 for widening the deck and beam sections on two lines of Unit 2 as his reason for failure to complete the work in the time allotted.

The contract work was divided into three units with different calendar-day allotments for each unit as follows: Unit A, 550 calendar days; Unit B, 730 calendar days; Unit C, 850 calendar days.

Commission action on June 22, 1971, granted the contractor an 80-day extension on both Units B and C without assessment of liquidated damages because of a strike in the steel fabricator's plant. Unit A was completed within the time allotted in the contract.

Commission action of November 24, 1971, granted the contractor an 80-day extension on both Units B and C without assessment of liquidated damages because of extra work involved in expansion joint revisions.

It has been determined that the extra work required under Price Agreement No. 15 did delay the project a total of 29

(more)

days. I have granted the contractor a 29-day extension on both Units B and C without assessment of liquidated damages in accordance with authority given me by you.

This is a Federal-aid project and we have the concurrence of the Federal Highway Administration. The matter will be on the agenda for your concurrence at the June 27 meeting.

cc Floyd Query
George M. Baldwin
F. B. Klaboe
A. E. Johnson
Walter J. Hart
C. T. Keasey
L. H. Young
V. E. Skoog
H. S. Coulter
V. L. Gallagher
Gary Ross
Gary Sund

RJW:ag ms

E—320 (Rev.)—5M—10-67

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MAR 20 1972
BRIDGE DIVISION

OREGON STATE HIGHWAY COMMISSION

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon

Date March 9, 1972

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from *B=11 days to *B=40 days, within which to complete our Contract No. 7214, without the assessment of liquidated damages. The said contract is described as follows:

WEST FREMONT INTERCHANGE STRUCTURE

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows: From November of 1969 through September of 1970 Andersen-Hannan was delayed while constructing Units WE-2 and EW-2. These delays were the results of revisions listed on Price Agreement #15. The revisions increased or changed form areas; which in turn increased fabrication, erection, pouring and stripping times. Therefore, we request that 29 days be added to Schedules "B" and "C".

Respectfully submitted,

ANDERSEN-HANNAN, A Joint Venture
Contractor

By Richard H.

* Also include: C=131
** Also include: C=160

CONSENT OF SURETY

Date March 9, 1972

We, GENERAL INSURANCE COMPANY OF AMERICA, as

surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

M. Mowrey (signed and sealed on original)
Attorney-in-fact

(SEAL)

J. W. Bayless (signed and sealed on original)
Resident Agent

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request

for

Increase in Number of Workdays

to

Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 7214 Contractor Andersen-Hannan

Highway Stadium Freeway

Section West Fremont Interchange

Kind of Work Grading, Paving, Structure, Signing and Illumination

It is recommended that the request for increase in the number of workdays within which to complete said contract be ~~DENIED~~ or **GRANTED.** The reasons for such recommendation are as follows:

Additional time recommended due to additional work added to the Contract.

Recommended for Approval:

Assistant Division Engineer

R.W. Elli

Construction Engineer or Bridge Engineer

F B Klaboe

Dep. State Highway Engineer

Contract No. 7214

Project designation I-405-8(20) 303
State-Federal

Date awarded April 29, 1969

Work started June 4, 1969

Per cent completed 98.8% March 3, 1972
Date

No. of Workdays Allowed (a) 550 (b) 868
(c) 958

No. of Workdays Used (a) 550 (b) 857
(c) 857

No. of Added Workdays Requested (b) 29
(c) 29

Form FHWA-121 (12-67)
UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

TO : Mr. George M. Baldwin, Administrator of Highways
Salem, Oregon

DATE: May 9, 1972

In reply refer to: 10-35-DA

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Project I-405-8(20)303
West Fremont Interchange
Stadium Freeway
Contract 7214 Time Extension

Mr. Johnson's letter dated May 5, 1972, requests our reconsideration of a previously requested 29-day time extension. Our reply dated April 19, 1972, indicated concurrence in 16 days based on data available at that time.

Our Area Engineer has reviewed the background data in the field and has discussed the matter with the Resident Engineer. Based on that review, as supplemented by Mr. Johnson's letter, he has recommended concurrence in the 29-day extension. Our April 19, 1972, memorandum is hereby modified to reflect FHWA concurrence in the 29 days as requested.

The 58-day extension, mentioned in the last paragraph of your letter, received FHWA concurrence by memorandum dated November 2, 1971. In reviewing the data involved, I agree that the extension applies to both units "A" and "B". The Commission approved the 58-day request on that basis in their November 26 letter to the contractor. I concur in that action.

Typing Error: Should be "C"; cleared with FHWA 5-17-72 in discussion between C.T. Christianson & R. J. Wright

5-15-72

al

5-17-72
[illegible]

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OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
MAY 17 1972
BRIDGE DIVISION

NOTED
TOM EDWARDS

NOTED
A. E. JOHNSON

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

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MAY 8 - 1972
FOR FILING

7214

May 5, 1972

TO: Mr. R. E. Simpson, Division Engineer
Federal Highway Administration

537

FROM:
A. E. Johnson
Assistant State Highway Engineer

SUBJECT: Request for Extension of Time
West Fremont Interchange
Contract No. 7214
FA Project No. I-405-8(20)303
Your File 10-35-DA

Your letter of April 19 concurred in 16 days of a 29-day requested extension. The following is additional data to support the original request of 29 days for Units B and C.

Your analysis of the additional work required under Price Agreement No. 15 computed increased time on the basis of a prorated time per dollar for the total contract amount. Since one-half of the contract amount is structural steel, this method does not reflect a true ratio of the dollar amount of the concrete work to the contract time. A major part of the falsework materials were tied up in placement of this additional concrete and this, in turn, delayed completion of the remaining units.

A more accurate estimate of the additional time required for this change would be one based on the increased concrete quantity, which would reflect the additional form work and falsework required. An increase in concrete quantity for work done under this price agreement is 12.6 percent. The actual time required to construct the revised superstructure was 258 calendar days; therefore, the theoretical number of days needed for the original plan is 258 divided by 1.126 which equals 229 days. This results

(more)

in a difference of 29 days, the requested extension of time. Your reconsideration of the original request for a 29-day extension of time is requested.

By your letter of November 2, 1971 you approved a 58-day time extension for expansion joint revisions on Unit B. I had requested a 120-day extension which included delays due to other causes such as strikes. I should have requested the 58-day extension on Unit C as well as Unit B since the expansion joint revisions apply to both units. May I have your concurrence in the additional 58 days for Unit C.

bc George M. Baldwin
Tom Edwards
F. B. Klaboe
Walt Hart
L. H. Young (enc.)
H. S. Coulter "

RJW:ag:dh ja

Form FHWA-121 (12-67)
UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

TO : Mr. George M. Baldwin, Administrator of Highways
Salem, Oregon

DATE: April 19, 1972

In reply refer to: 10-35-DA

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

Mulack

SUBJECT: Oregon I-405-8(20)303
West Fremont Interchange
Stadium Freeway
Contract No. 7214

cy Yount [illegible] 5-5-72

Your request for concurrence in a 29-day extension of contract time has been reviewed as presented in Mr. Johnson's April 12, 1972 memorandum. The extension is intended to apply to units "B" and "C".

The sole reason given for this extension is Price Agreement No. 15. At the pro-rate increase in time per dollar our analysis shows that the increased cost would result in an equivalent 4 days of added time. With the exception of the additional Cadwell splices and deletion of the attenuator, all work consisted of increased quantities of bid items. The scope and character of the work was not changed and therefore the quantity increase should be covered by the 4 days. The deletion of the attenuator should result in a time savings, however, since this work would have undoubtedly ran concurrently with some other work, the effect will not be considered.

The additional 125 Cadwell splices did require increased work time. The estimate provided in support of the price agreement reflects 45 min. per splice plus cutting time. Assuming the condition where only one splice can be done at a time, splicing under this concept would support 12 additional days.

Unless you have additional data in support of the proposed 29-day extension, concurrence for Federal-aid purposes will be limited to 16 days. This analysis is based on data contained in our files relative to Price Agreement No. 15.

NOTED
F. B. KLABOE

4-25-72
al

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APR 26 1972
BRIDGE DIVISION

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STATE HI

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

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FORM 2-30 (12-67)
FOR FILING
7214

Gen. Files

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
April 28, 1972

SUBJECT: West Fremont Interchange
Contract No. 7214

To: MEMO TO THE FILES

This memo concerns payment for rust stain removal and re-priming of the structural steel as per Extra Work Order #14. When this work order was written we met with Ralph Hannan and it was mutually agreed that our paint inspector and the painting sub-contractor's foreman would reach an agreement daily on the portion of work to be charged to rust stain. By rust stain it was understood to mean any damage to the zinc primer due to not priming the top of the top girder flange.

Since this time, daily extra work order tickets have been prepared and there is agreement on the rust stain portion for the exterior surfaces. The interior surfaces were repaired prior to the State's decision to pay for the rust stain damage. Daily tickets for this have been prepaired and given to Andersen-Hannan.

On January 14, 1972, a meeting at Andersen's office was attended by Mr. A.E. Johnson, Mr. E.L. Hardt, and myself. Mr. Andersen indicated that he would like to get paid for this work. He was told the work order was approved and submitting the bill was all that was required. This office tried to secure billing from Andersen-Hannan's field office for both the March 5th and April 5th monthly estimates, but we were not successful. Prior to the April 5th estimate, we were told by Mr. Rich Jahala, they did not want to submit any bills because it might jeopardize Canron's position on the rest of the claim. Last week we talked to Mr. R. Evertt, who confirmed Mr. Jahala's statement. Also, he stated that Andersen-Hannan did not necessarily agree with the breakdown in costs arrived at in the field.

J. D. Howard
JOHN D. HOWARD
Resident Bridge Engineer

cc: Mr. Edward L. Hardt
Mr. A. E. Johnson
Mr. Walter J. Hart
file
JDH:dfh

NOTED
A. E. JOHNSON

Gr. Files

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon

DATE April 24, 1972

1714

TO Mr. H. S. Coulter
Metrpolitan Engineer

Attention Mr. Edward L. Hardt
Metro Bridge Const. Engineer

FROM ORIGINAL SIGNED
WALTER J. HART

Walter J. Hart
Bridge Engineer

SUBJECT Grade Adjustments at Expansion Joints
East and West Fremont Interchanges
Contracts 7214, 7310 and 7311

This will confirm our discussion of April 18, 1972, on responsibility for adjustments to obtain matching grades at the expansion joints on the East and West Fremont Interchanges. It is my belief that the adjustments which have been necessary are plan changes and that the State is responsible for the costs of those changes. This responsibility should apply equally to both the East and West Fremont contracts.

It is our opinion that the dimensional tolerances called for on the contract plans do not reflect reality in this type of structure. The Federal Highway Administration concurs in this opinion. They have indicated they will participate in the costs of the deck build-up or expansion joint revision. A copy of the half slips documenting their acknowledgement of this responsibility is attached.

Price agreements should be prepared for each of the effected contracts to cover the plan changes in either deck build-up or expansion joint revision.

WJH:dh
Attachment

cc A. E. Johnson
H. A. Schell, Jr., FHWA

NOTED
A. E. JOHNSON

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APR 25 1972
OFFICE OF
STATE HIGHWAY ENGINEER

To File

OREGON STATE
HIGHWAY DIVISION
METROPOLITAN REGION
PORTLAND, OREGON 97213

April 24, 1972

Andersen - Hannan
1626 NW 16th Avenue
Portland, Oregon 97209

Re: West Fremont Interchange
Contract No. 7214
Stadium Fwy Project

Gentlemen:

In the attached letter we questioned you on the status of the price agreement for the specification change and a cost difference for furnishing Carboline Vinyl. we have not yet heard from you on this matter.

Your painter has applied some Carboline Vinyl and in the near future will be using it extensively. To simplify our accounting and to keep payments to you current, we would appreciate your help in processing the two price agreements needed to make this change.

Sincerely,

Howard
JOHN D. HOWARD
Resident Bridge Engineer

cc: Mr. A.E. Johnson
Mr. Edward L. Hardt
Mr. Walt J. Hart
file
JDH:dfh
attachment

RECEIVED
APR 25 1972
OFFICE OF
STATE HIGHWAY ENGINEER

NOTED
A. E. JOHNSON

METROPOLITAN REGION Portland, Oregon 97213
October 27, 1971

Andersen - Harman
1626 NW 16th Avenue
Portland, Oregon 97209

re: West Fremont Interchange
Stadium Fwy
Contract No. 7214

Gentlemen:

On July 26, 1971, Mr. Edward L. Hardt sent you a price agreement for changing the specification to permit a second paint supplier. No money was involved; however, it did not waive your right to request payment for the additional cost of the new material.

Would you please investigate and let us know the status of this price agreement? Also, a difference in cost of the new vinyl is needed by this office so a price agreement for it can be prepared.

Sincerely,

JOHN D. HOWARD
Resident Bridge Engineer

cc: Mr. Edward L. Hardt
Mr. Ivan D. Merchant
file
JDH:dfh

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[illegible]
FOR FILING

7214

OREGON STATE
HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

DATE April 12, 1972

TO
R. E. Simpson, Division Engineer
Federal Highway Administration
Post Office Box 300
Salem, Oregon 97308

FROM
A. E. Johnson
Assistant State Highway Engineer

SUBJECT
Request for Extension of Time
West Fremont Interchange
Contract 7214
I-405-8(20)303

The subject project was awarded April 29, 1969 and contained contract work divided into three units, with different calendar day allotments for each unit, as follows:

Unit A - 550 calendar days
Unit B - 730 calendar days
Unit C - 850 calendar days

Unit A was completed November 25, 1970 with 550 calendar days charged. Both Units A and B had approved time extensions totaling 138 days which together with calendar day adjustments brought calendar day charges to 857 as of November 6, 1971 (see enclosed bar chart).

Project work was suspended November 6, 1971 because of unsatisfactory painting weather. The painting of structural steel is the only major item of work remaining at this time. It is estimated that work will resume on May 1, 1972, at which time the completion dates will be May 11, 1972 for Unit B and September 8, 1972 for Unit C.

The contractor has requested an additional 29 days to complete the work on Units B and C without assessment of liquidated damages. If weather permits resumption of work by May 1, this request would advance the completion dates to June 9, 1972 for

(more)

Unit B and October 7, 1972 for Unit C. The contractor cites delays due to extra work required under Price Agreement No. 15 as the reason for this request.

Price Agreement No. 15 called for the widening of the deck and beam sections of the "WE" and "EW" lines on Unit 2 and changed pier configurations at Piers 7 and 8. Additional form work and falsework was required for the concrete box girders and the additional time required to place this concrete in turn delayed work on the steel span decks. We have determined that the additional time, based on the increased concrete quantities, is 29 days.

With your concurrence I propose to recommend to the Highway Commission that the contractor be granted a 29-day extension of time. It is estimated that this will be sufficient time in which to complete the project and no further extensions will be required.

Attachment

bc George Baldwin
Tom Edwards
F. B. Klaboe
Walt Hart
L. H. Young
H. S. Coulter

RJW:dh ja

FORM 2-30 (REV. 10-69)

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
March 16, 1972

SUBJECT: West Fremont Interchange
Contract No. 7214
Contractor's Request For
Additional Time

To: Walter Hart
Bridge Engineer
State Highway Building
Salem

Attached you will find five copies of Contractor's Request for Increase in Number of Workdays from Anderson-Hannan, Contractor on the subject project, a copy of John Howard's March 10, letter containing his recommendation for this request and a copy of a calculation sheet prepared by Mr. Howard in support of his recommendation.

The Contractor is requesting an addition of 29 days to both time limits B and C for the project. Time limit B covers a portion of the project and time limit C is for the completion of the entire project. This request is based on the plan change made by the State whereby the "EW" and "WE" lines were revised to conform to changed alignment leading into the Industrial Freeway. This change resulted in a Price Agreement, No. 15, amounting to about $70,000 which covered the cost of the additional work. This request is based on the additional time necessary to perform this additional work. Please refer to Mr. Howard's transmittal letter for further details and for support for the 29 days.

This request is approved by this office and your approval is recommended.

H. S. Coulter
Metropolitan Engineer

By:

Edward L Hardt

Edward L. Hardt
Assistant Metropolitan Engineer

ELH:pb

Encs

cc: A. E. Johnson
John Howard

NOTED
W. J. HART

RECEIVED
MAR 20 1972
BRIDGE DIVISION

FORM E-30 (12-67)

METROPOLITAN ENGINEER
RECEIVED
MAR 14 1972
☐ ME ☐ AME ☐ AME ☐ MOE ☐ MOE ☐ MTE

OREGON STATE HIGHWAY DEPARTMENT
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
March 10, 1972

SUBJECT: West Fremont Interchange
Stadium Fwy Project
Contract No. 7214

To: Mr. Edward L. Hardt
Ass't Metropolitan Engineer
O F F I C E

Enclosed is a contractor's request for twenty-nine additional calendar days based on the revision of "WE" - "EW" Unit 2. They have requested the time be added to both schedules 'B' & 'C'. Time limit 'B' completes the "WS" & "SW" lines and at this date has eleven days left for completion. Schedule 'C' is for the complete job and has 131 days remaining.

The "EW"-"WE" 2 revision widened and re-aligned both the upper and lower decks. Because of the nature of the change it is difficult to separate the extra work from the original contract. We believe the additional form work and falsework should be approximately proportional to the increased concrete quantities. The attached calculation sheet supports the 29 days on this basis.

The "WE" Unit 2 was the second and "EW" 2 the third units in the contractors concrete box girder schedule. Since a large part of "EW" 2 was directly above "WE" 2, falsework was required for both units during the "EW" 2 construction. This effectively tied up the major portion of the contractor's falsework materials, so completion of these two was critical to further progress on the concrete box girder units. Work on the box girders and the steel span deck was scheduled to proceed simultaneously by separate crews with the box girders phasing out first. When this occured the box girder crew continued with the other crew working on the steel span decks.

In our opinion this revision added work and required additional time for the box girder phase which in turn, delayed the steel deck work. We recommend extending time limits 'B' & 'C' the 29 days the contractor has requested.

Painting the structural steel is the only major work remaining at this date. Because of unsatisfactory painting weather a jobshutdown is now in effect and calendar days are not being charged. When painting weather arrives we believe the time on hand plus the 29 days requested should be sufficient to complete the project and further extensions will not be needed.

J. D. Howard
JOHN D. HOWARD
Resident Bridge Engineer

cc: file
JDH:dfh
enclosure

7214

[illegible] STATE HIGHWAY DEPARTMENT

WEST FREMONT INT

JH 3-10 72 19 Checked by 19

ADDITIONAL TIME FOR "EW-WE"2 REVISION

Assume additional work and time required is proportional to the increased concrete quantity.

Est. Original Concrete quantity (Does not include footings and lower columns not affected by the change.) = 71,894 Ft^3.

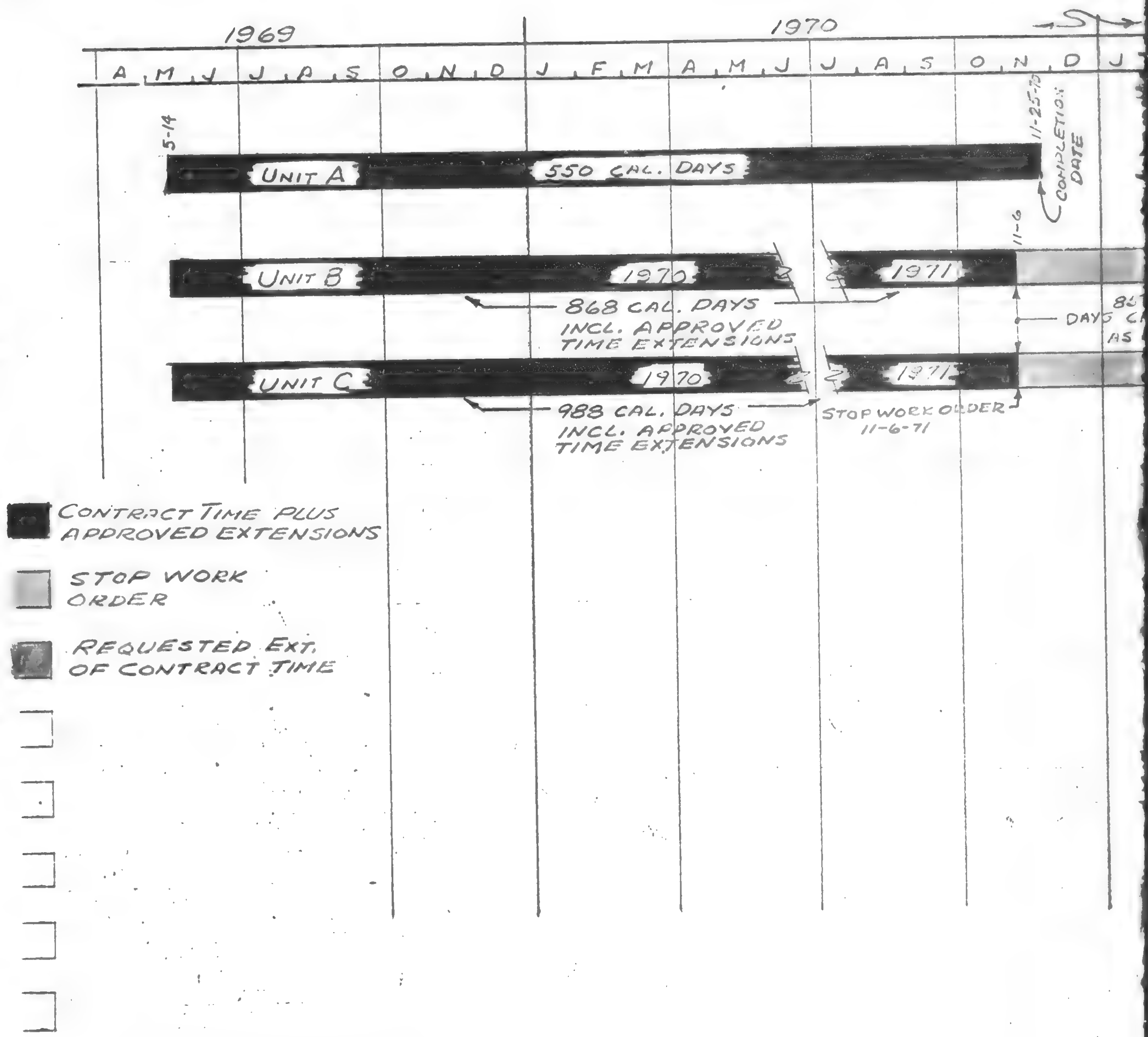
Revised quantity = 80,925 Ft^3

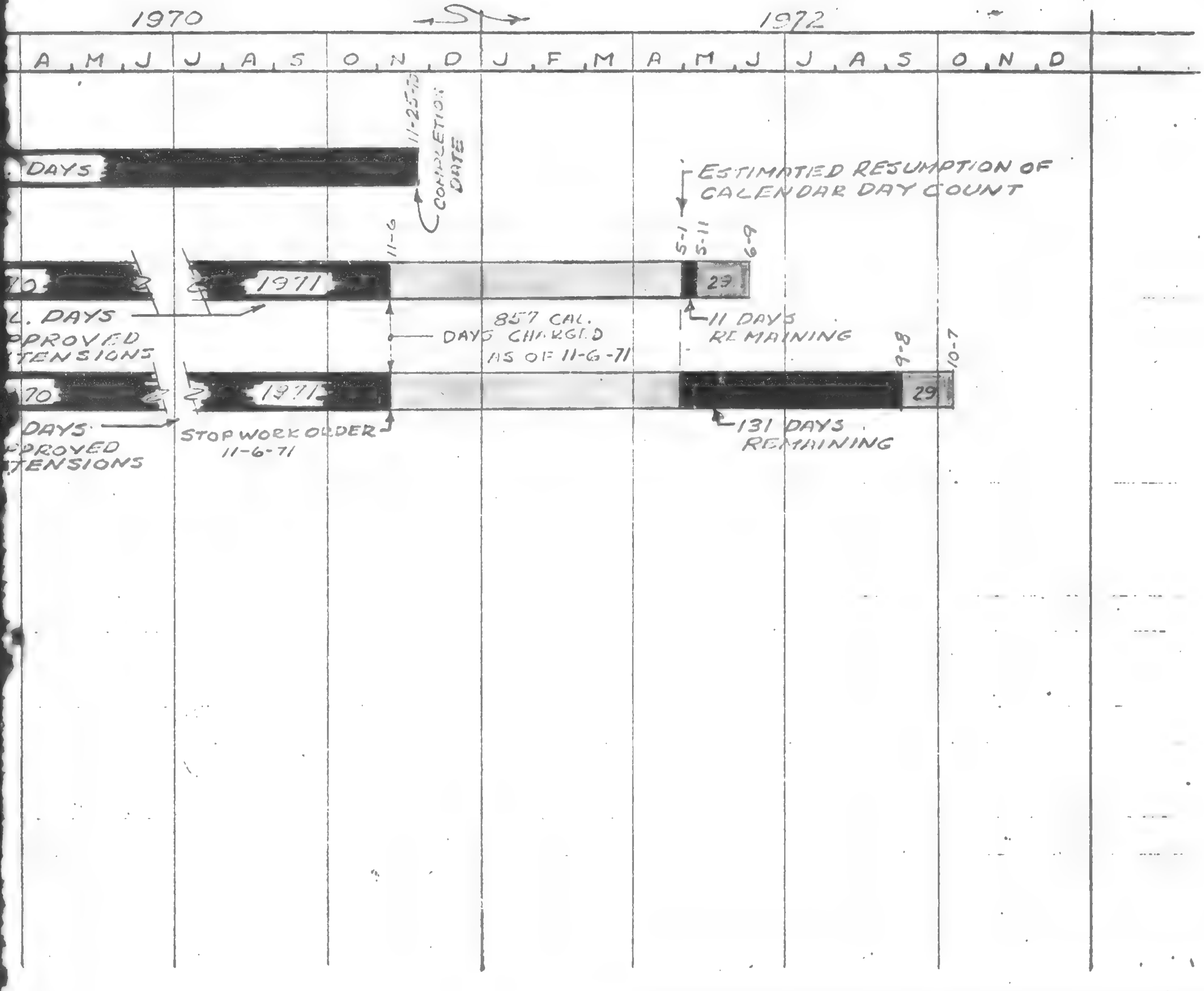
Additional = 9,031 Ft^3
= 12.6% increase

Time required to construct revised superstructure = Jan. 1, '70 to Sept 15, '70
= 258 calendar days.

Theoretical no. days needed for original plan $= \frac{258}{1.126}$ = 229 days.

ADDITIONAL TIME REQ'D = 258 - 229 = 29 calendar days


1969
1970
A M J J A S O N D J F M A M J J A S O N D J
5-14
UNIT A
550 CAL. DAYS
11-25-70
COMPLETION DATE
11-6
UNIT B
1970
1971
868 CAL. DAYS
INCL. APPROVED TIME EXTENSIONS
85
DAYS C
AS
UNIT C
1970
1971
988 CAL. DAYS
INCL. APPROVED TIME EXTENSIONS
STOP WORK ORDER
11-6-71
CONTRACT TIME PLUS APPROVED EXTENSIONS
STOP WORK ORDER
REQUESTED EXT. OF CONTRACT TIME



WEST FREMONT INTRCH.
CONTRACT 7214

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APR 1[illegible] 1972
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RECEIVED
1972
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OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
April 4, 1972

SUBJECT: West Fremont Interchange
Contract No. 7214
Stadium Fwy Project

To: Mr. Edward L. Hardt

Ass't Metropolitan Engineer

O F F I C E

As a result of the recent meetings concerning the loss of zinc primer, we think that the enclosed information might be of some value. Summerized are the paint thickness surveys taken on the exterior web surfaces of "SE" Unit 3. Shortly after delivery to the jobsite in January of 1971, rusting was noted on girders of this unit. At this time, thickness checks by Pittsburgh Testing Laboratory were noted and additional thickness measurements were made by this office. The time interval between readings in this case was from two to three months. After pouring the deck, readings were again taken. This time the interval was from seven to eight months.

From the data enclosed the following might be noted:

1. The lack of thickness checks by Pittsburgh Testing Laboratory. On girder sections numbers 342, 344, 349 and 350, no Tooke marks could be found. On the 15 girder sections for "SE" Unit 3, 64 marks were found on the exterior surfaces for an average of approximately 4 marks per girder. The interior surfaces of the same 15 sections had five thickness checks by PTL. (NOTE: interior surface paint thickness readings not included in enclosed data).

2. The average of all the exterior PTL readings equals 3.3 mils. The average of comparable readings from two to three months later taken by this office equals 2.1 mils, for an apparent loss of 1.2 mils of zinc primer.

3. The average of all the Janaury-February, 1971, readings is 2.0 mils. Seven to eight months later the same readings show a 1.8 mil average, or a loss of 0.2 mils of primer.

Similar information is available on some of the other steel units. We are gathering it together and will send it when complete.

J D Howard
JOHN D. HOWARD
Resident Bridge Engineer

NOTED
A. E. JOHNSON

cc: Mr. Leonard Lindas
Mr. Walter J. Hart
Mr. Robert Shotwell
file
JDH:dfh
enclosures

RECEIVED
APR 7 1972
OFFICE OF
STATE HIGHWAY ENGINEER

REFERRED TO
A E Johnson with attach.
Date: 4-7-72 HARDT
For: Your information
Due Date:

[illegible]

Computation for Rust Bar Thickness in Mils. - Unit S.E. 3

Girder No	Girder Area NO.	P.T.L. Reading Dec. 1970	Tooke Readings by O.S.H.D. Jan Feb 1971	Readings Taken 7-29-71 to 8-9-71	Girder No	Girder Area NO	P.T.L. Reading Dec. 1970	Tooke Readings by O.S.H.D. Jan-Feb 1971	Readings Taken 7-29-71 to 8-9-71
340	1	none	2.1	[illegible]	341	34	none		1.5
	2	3.4	1.7	1.5		35	none	2.1	1.5
	3	3.1	1.2	1.1		36			
	4	3.2	none	1.3	342	37			
	5	none	none	2.0		38	none	1.4	1.5
	6	3.1	2.0	1.3		39	none	1.8	1.5
	7	3.4	1.6	1.3		40			
	8	none	2.2	1.7		41	none	2.0	2.0
	9	none	1.4	none		42			
	10	3.1	3.1	2.3		43	none	2.5	1.5
	11	3.3	2.1	1.5		44	none	2.3	1.5
	12	3.1	2.1	1.7		45			
	13	none	1.7	1.7		46	none	none	2.6
	14	3.1	2.3	2.0		47			
	15	3.3	1.4	2		48	none	1.0	1.5
	16	none	1.5	1.3		49	none	2.1	2.0
	17	none	1.5	1.2		50	none	1.5	1.5
	18					51			
341	19	3.4	2.0	2.0		52	none	1.3	[illegible]
	20	3.0	1.4	1.3		53	none	2.5	1.5
	21	none	1.3	2.0		54	none	[illegible]	[illegible]
	22	3.1	2.2	2.0	343	55	none	[illegible]	1.0
	23	none	2.3	2.0		56	3.2	1.1	1.5
	24	none	2.1	1.4		57			
	25	none	2.0	1.5		58	3.1	2.0	1.3
	26	none	1.8	1.0		59	none	[illegible]	1.5
	27					60	none	1.9	1.3
	28	3.0	2.5	3.0		61			
	29	3.1	2.0	1.5		62	3.3	2.6	none
	30	3.1	1.6	2.0		63	3.1	1.7	2.0
	31	none	2.1	1.5		64	none	2.3	1.5
	32	3.4	2.6	2.0		65	none	1.6	1.5
	33	none	2.1	1.3		66	none	1.5	20

Rust Film Thickness in Mils - Unit S.E. 3

Girder No	Girder Area No.	P.T.L. Reading Dec. 1970	Tooke Readings by O.S.H.Q. in Feb. 1971	Tooke Readings Taken 2-9-71	Girder No	Girder Area No.	P.T.L. Reading Dec. 1970	Tooke Readings by O.S.H.Q. in Feb. 1971	Tooke Readings Taken 2-9-71
	67	none	1.3	2.0		94	none	[illegible]	none
	68					95	3.2	3.0	2.5
344	69					96	3.1	1.3	2.0
	70	none	2.4	1.5	346	97	3.2	2.0	1.7
	71	none	2.3	2.0		98			
	72	none	2.6	3.0		99	3.1	2.1	1.5
	73	none	2.8	3.0		100	none	2.1	2.0
	74	none	1.6	1.5		101	none	2.0	none
	75					102	3.0	1.4	1.5
	76					103	none	2.2	1.0
	77	none	1.5	1.5		104	none	3.0	2.0
	78	none	1.3	1.0		105	3.3	3.1	2.0
	79	none	1.5	3.0		106	4.0	3.0	2.5
	80	none	1.5	2.0		107	3.5	2.7	2.0
	81	none	2.0	2.0		108	3.2	3.0	1.5
	82				347	109	3.4	[illegible]	1.5
345	83	none	1.7	none		110			
	84	none	1.2	none		111	3.3	3.	2.0
	85	3.2	2.0	1.5		112	none	[illegible]	1.5
	86	none	1.2	2.5		113	none	1.5	1.5
	87	none	2.0	2.5		114	3.3	2.1	2.0
	88	4.0	2.0	2.0		115	none	2.1	2.0
	89	none	2.0	2.0		116			
	90	none	1.8	2.5		117	none	3.2	3.0
	91	none	2.0	2.5		118	3.3	3.1	2.6
	92	3.1	2.0	2.5		119	4.0	3.0	2.0
	93					120	3.1	2.5	none
					348	121	3.4	2.1	2.0
						122			
						123	3.4	[illegible]	2.0
						124	none	3.3	2.5
						125			
						126	3.2	[illegible]	1.5

Rust Burn Thickness in Mils Unit S.E. 3

Girder No	Girder Area No.	P.T.L. Reading Dec. 1970	Tooke Readings by O.S.H.D. in Feb. 71	Readings Taken 7-23-71 to 8-9-71	Girder No	Girder Area No	P.T.L. Reading Dec. 1970	Tooke Readings by O.S.H.D. in Feb. 71	Readings Taken 7-23-71 to 8-9-71
	127	3.1	1.5	1.5		155	none	1.6	1.5
	128	none	2.4	none		156	none	3.0	2.0
	129	3.5	1.7	2.5		157	none	1.4	1.5
	130					158	none	1.2	1.3
	131	4.0	2.0	2.0		159			
	132	none	2.7	1.5		160	none	3.2	3.0
349	133				351	161			
	134	none	1.6	1.5		162	3.3	2.0	2.0
	135	none	2.3	1.7		163	none	2.1	1.7
	136					164	3.2	2.2	1.7
	137	none	0.8	1.2		165	3.3	2.1	1.5
	138	none	1.2	2.0		166	none	2.6	none
	139	none	1.6	1.2		167			
	140					168			
	141	none	2.1	1.6		169	none	3.0	2.5
	142	none	2.3	1.5		170	none	[illegible]	1.5
	143					171	none	1.3	none
	144	none	1.5	1.5		172	none	2.	none
	145	none	3.0	2.0		173			
	146	none	1.6	1.9		174	none	2.	none
350	147				352	175	none	2.2	1.3
	148	none	2.0	1.7		176			
	149	none	2.8	2.0		177	none	2.5	1.5
	150	none	1.6	1.5		178			
	151	none	1.6	1.7		179	none	2.0	2.0
	152	none	2.0	1.5		180	none	1.8	1.5
	153	none	1.4	1.0		181	3.3	2.5	2.5
	154					182	3.4	2.8	1.5
						183	3.2	1.5	1.5
						184			
						185	none	1.4	1.3
						186			

#4

Rust Bar Thickness in Mils Unit S.E. 3

Girder No	Girder Area No.	P.T.L. Reading Dec. 1970	Tooke Readings by O.S.H.D. in Feb. 1971	Readings Taken 7-29-71 to 8-9-71
352	187			
	188			
	189	none	15	1.3
	190			
	191	3.3	1.4	1.4
	192	none	2.3	1.5
353	193	none	2.0	1.5
	194	none	1.6	1.7
	195	none	1.5	1.3
	196	none	1.5	1.5
	197	none	2.0	1.7
	198	none	[illegible]	1.6
	199	none	2.0	1.6
	200	none	1.6	1.5
	201	3.4	1.9	1.8
	202			
	203	none	2.5	2.0
	204	none	1.5	1.3

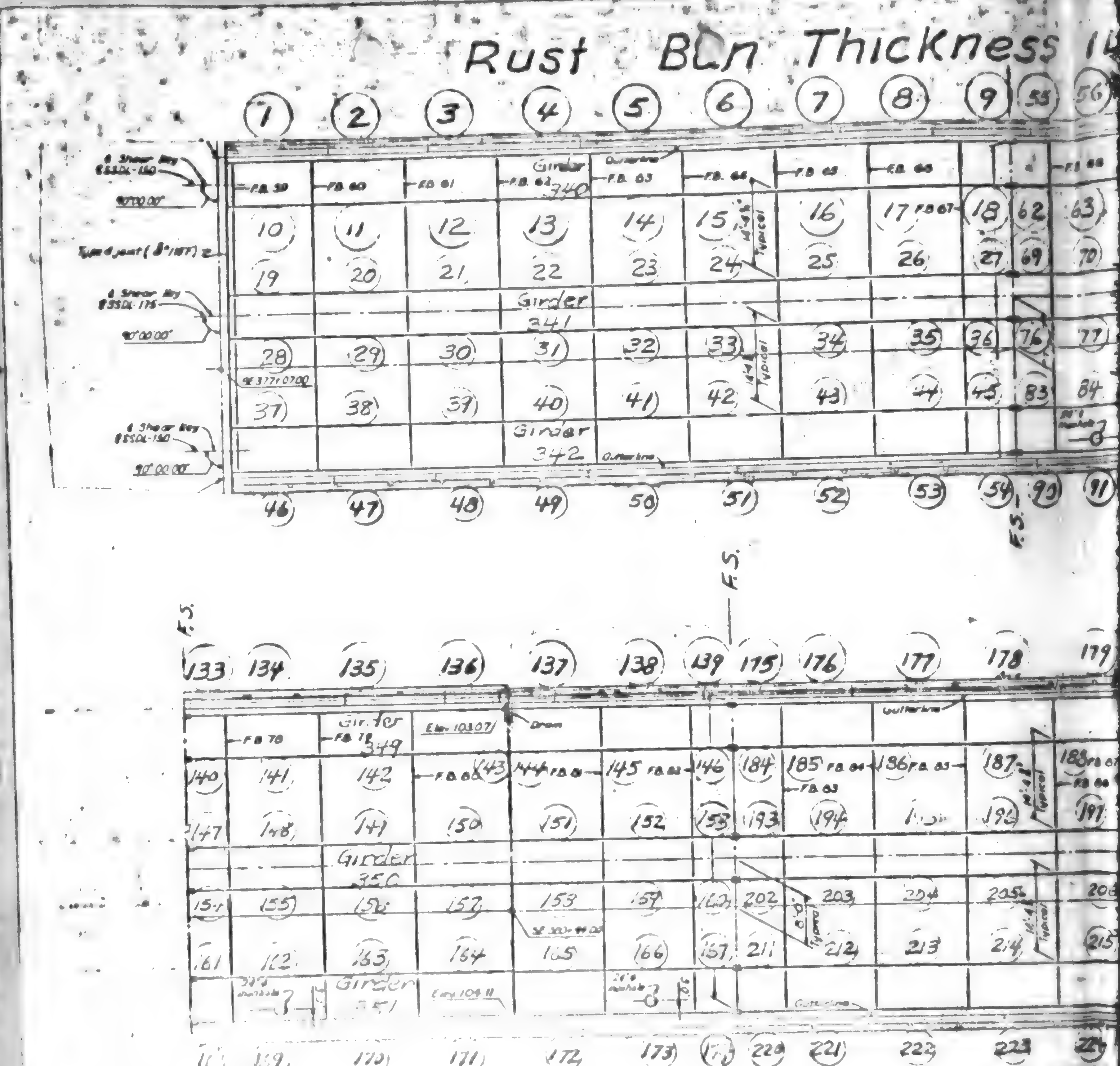
Girder No	Girder Area No.	P.T.L. Reading Dec. 1970	Tooke Readings by O.S.H.D. in Feb. 1971	Readings Taken 7-29-71 to 8-9-71
[illegible]	205			
	206			
	207	none	[illegible]	2.3
	208			
	209	3.0	1.6	1.5
	210	3.3	1.0	1.5
354	211	4.0	2.8	1.3
	212	3.2	2.0	2.3
	213	none	2.0	1.7
	214	none	2.0	2.0
	215	3.1	1.4	1.5
	216	3.[illegible]	1.5	1.5
	217	3.3	1.4	2.0
	218			
	219	3.2	2.0	2.0
	220	none	5.0	1.5
	221			
	222			
	223	none	5	1.5
	224			
	225	3.5	2.5	1.5
	226	none	2.5	1.7
	227	3.4	2.5	2.0
	228	3.1	2.0	2.0

Average of all Readings:

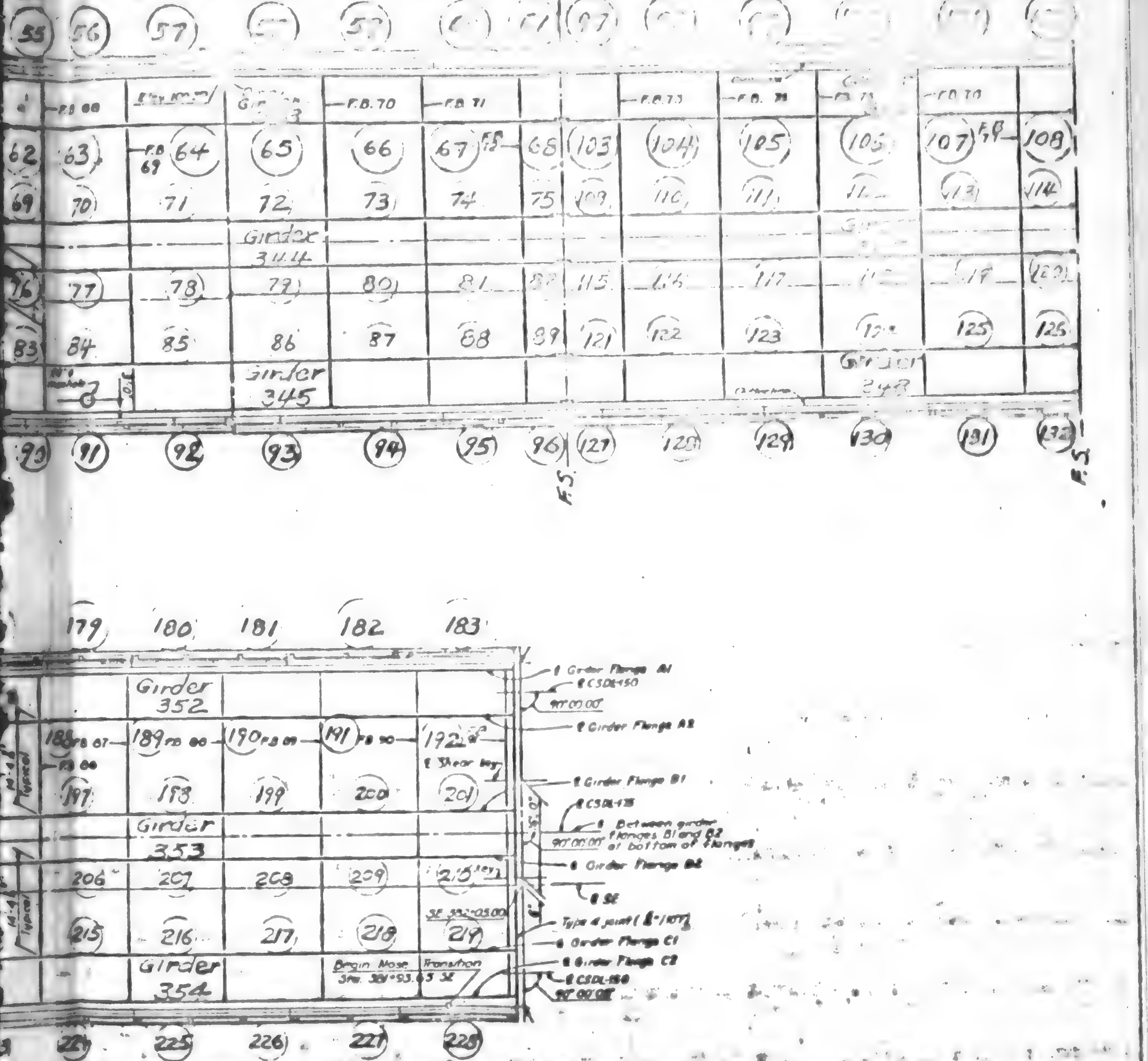
PTL 3.3 mils — Jan-Feb Tooke for same PTL read. = 2.1 mils

Jan-Feb-'71 Tooke 2.0 mils

Readings taken 7-29-71 to 8-9-71 = 1.8 mils

Rust Bun Thickness
Girder 340
Girder 341
Girder 342
Girder 349
Girder 350
Girder 351
Gutter line
Drain
F.S.
6 Shear Key
Typical joint (8"107)
90°00'00"
Typical
F.B. 59
F.B. 60
F.B. 61
F.B. 62
F.B. 63
F.B. 64
F.B. 65
F.B. 67
F.B. 68
F.B. 70
F.B. 78
Elev. 1030.71
24" manhole
Elev. 1044.11

ss in Mils – Unit S.E-3



55 56 57 58 59 60 61 97 98 99 100 101 102
F.B. 68
F.B. 70
F.B. 71
F.B. 72
F.B. 73
F.B. 74
F.B. 75
F.B. 76
F.B. 77
62 63 64 65 66 67 68 103 104 105 106 107 108
69 70 71 72 73 74 75 109 110 111 112 113 114
Girder 344
Girder
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F.S.
179 180 181 182 183
Girder 352
188 F.B. 87
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191 F.B. 90
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F.B. 86
℄ Shear key
197 198 199 200 201
Girder 353
206 207 208 209 210
215 216 217 218 219
SE 332+05.00
Girder 354
Begin Nose Transition Sta. 331+93.63 SE
224 225 226 227 228
℄ Girder Flange A1
℄ CSDL-150
97°00'00"
℄ Girder Flange A2
℄ Girder Flange B1
℄ CSDL-135
℄ Between girder flanges B1 and B2 at bottom of flanges
97°00'00"
℄ Girder Flange B2
℄ SE
Type 4 joint (⅞"-1'07")
℄ Girder Flange C1
℄ Girder Flange C2
℄ CSDL-150
97°00'00"

West Fremont Interchange
Contract No. 7214

5

[illegible]

OREGON STATE
HIGHWAY DIVISION

[illegible]

HIGHWAY BUILDING • • • SALEM, OREGON • • • 97310

March 23, 1972

Peter Kiewit Sons' Company
P. O. Box 1777
Vancouver, Washington 98663

ATTENTION: Mr. W. D. Hitt

RE: Fremont Bridge Pier Claim
Contract No. 7124

Gentlemen:

21

This will confirm your meeting with the Claims Review Board for 9 A.M. Friday, April [illegible], 1972. This meeting will be in the small conference room (Room 120) of the State Highway Building here in Salem.

I am providing each member of the Review Board with a copy of your December 21, 1971 letter and its 13-page attachment.

Very truly yours,

JB

John A. Bond, Secretary
Claims Review Board

JAB:fw
cc: F. B. Klaboe
E. S. Hunter
R. L. Schroeder ✓
L. I. Lindas
V. E. Skoog
W. J. Hart
C. G. Swenson
H. S. Coulter - Attn: E. L. Hardt

RECEIVED
MAR 23 1972
OFFICE OF
STATE HIGHWAY ENGINEER

NOTE TO BOARD MEMBERS: This matter was originally before the Claims Review Board on December 8, 1970. No final decision was reached at that time and it was left open for Kiewit to present additional argument.

Form E-123

PETER KIEWIT SONS' CO.
CONTRACTORS
ESTABLISHED 1884
HOME OFFICE - OMAHA, NEBRASKA
P. O. Box 1777
VANCOUVER, WASHINGTON 98663

December 21, 1971

Routing
Organ
Decker
Bohme
Johnson

RECEIVED
DEC 24 1971
CONSTRUCTION
DIVISION

Oregon State Highway Division
Claims Review Board
212 State Highway Building
Salem, Oregon 97310

Attention: Mr. John Bond, Secretary

Re: Fremont Bridge Piers
OSHD Contract No. 7124
Claim Pier 1E
Fremont Job 3994
Serial Letter V-112

Gentlemen:

Reference is made to our serial letter V-108 dated November 11, 1970, the Claim Review Board hearing of December 8, 1970, and the "Highway Division's Rebuttal of Contractor's Claim" on December 8, 1970.

We hereby submit the following for the Board's further consideration of this claim:

(1) Peter Kiewit Sons' Co.'s review of "Highway Division's Rebuttal of Contractor's Claim".

(2) Exhibit I - Schedule comparison of Pier 1E, including bar graph schedule.

(3) Peter Kiewit Sons' Co.'s drawing "Proposed Backfill and Dike Reinforcing Pier 1E".

Further to the above the contractor submits one further point for the State's consideration. Comments at the hearing and in the Highway Division's "Rebuttal" make it apparent that the State was, from the outset, determined to install bearing piling in Pier 1E, if it was at all possible. Any reasonable contractor bidding this job would have interpreted the documents as providing for a bearing piling alternate in case excavation of Pier 1E uncovered bearing material that was incompetent or suspect. This was not the State's plan and, in the contractor's opinion, the failure of the State to communicate its true intention was a serious omission. The contractor found himself required to excavate and install bearing piling in extremely hard, cemented foundation material. We do not speculate on the differences knowledge of the State's true intentions would have made in the contractor's bidding and planning for this work, but do strongly urge that the State had an obligation to make those intentions known and failed to do so. The result was the parties to the contract failed to reach a meeting of the minds with respect to the bearing piling alternate when this job was priced. Many of the remarks in the State's "Rebuttal" would take on significance had the contractor been fully advised at the outset as to the State's resolution to install bearing piling if possible. This intention was extraordinary and the State has a clear obligation to advise bidders of it.

Please advise us when the Board can reconvene on this matter.

Yours very truly,

PETER KIEWIT SONS' CO.

W. D. Hitt

W. D. Hitt

WDH/hms
Enc.

cc: Res. Eng. (3)
Job
Claim File
File

PKS REVIEW OF "HIGHWAY DIVISION'S REBUTTAL OF CONTRACTOR'S CLAIM"

Following is a paragraph by paragraph review of the State presentation at the Claim Review Board Hearing on December 8, 1970 concerning contract 7124, Fremont Bridge Piers, Peter Kiewit Sons' Co.

State's Item A - General Discussion of Plans and Specifications as they relate to this claim.

State's paragraph one. Paragraph one is a correct description of the bridge; however, their words 'normal river stages' are ambiguous. Actual access to Pier 1E during the high water periods, such as the period of the test pile work and half of the excavation work was limited to one side and approximately half of the north and south ends of the piers. Access across the remainder of the ends and along the river side was only possible from a dike or from a barge. A dike served the purpose of isolating the pier area from the river and also provided access to the riverside of the pier for equipment.

State's paragraph 2. Paragraph 2 is not disputed in its description of the State's intention to have test piling driven to determine whether to use the pier design as called for in the contract plans without piling, or the alternate pile footing plans shown in the contract plans. Whether or not the Commission actually desired to found Pier 1E on piling seems an odd point to stick on. The contractor assumed that the Division desired that Pier 1E would be founded on an adequate foundation and that if piling were needed for bearing they would be put in. If they were not needed, they would not be put in.

In any event, this is not a subject the contractor is required to speculate upon. Rather the contractor must bid on the plans and specifications as presented to him prior to the bid. Obviously, with an alternate pile plan shown, there was no doubt in the prospective contractor's mind at the time of bidding that there was a distinct possibility that piling would be required, and we have never disputed that point. We also had no concern prior to bid and have continued to be extremely puzzled in our subsequent dealings and discussions with the State over their reluctance to pay for all [illegible]e costs caused by the addition [illegible] piling, since the specifications and plans were set up quite clearly with the alternate designs and with provisions to pay for the extra work involved if the alternate pile footing design was selected after testing. The statements by the State in paragraph 2 that the specification provided that the engineer would determine whether the foundation piles, as indicated by the alternate pile footing plan, are to be furnished and driven; and that the specification went on to state that this work would be paid for as "Extra Work" and defined this extra work as the "furnishing of 14BP117 piles and driving these piles" are grossly misleading statements. The actual specifications state, "If it is determined that foundation piles are to be used in construction of this pier, such work shall be performed and paid for as 'extra work' in conformance with Article 4-4. This work would include the furnishing of 14BP117 piles and driving these piles with the same hammer used in driving test piles in this pier." The construing of this statement to limit the definition of extra work and the implication that this is the total of the extra work to be paid for is a distortion and seems to be intended to mislead your review of the case.

[illegible]

Repeating statements from our letter of November 11, 1970: "Work" is defined in Section 1 of the Standard Specifications as "....all labor, materials, equipment and other incidentals necessary or convenient to the successful completion of.... the portion of the project involved...."

definition

It is further evidenced that the State does not actually misconstrue the intent of the specifications to include only the furnishing and driving of the 14" BP 117 pile. The State has already, in fact, included payment for the following additional items in addition to the furnishing and driving of the piling:

a. Engineering assistance in developing method of driving access.

b. Storage building.

c. Splicing of piles.

d. Cutoff of piles under water.

e. Move-in and out of equipment.

f. Lowering of the top frame of the cofferdam.

State's paragraph 3. We have no quarrel with paragraph 3, since it correctly defines shoring and cribbing and how it is paid for. One of the alternates recognized by the State is that it is possible that no shoring or cribbing may be required in an excavation. As a point of possible clarification, "cofferdam" does not necessarily mean a sheet pile cofferdam but can be a dike or soldier beam and lagging, etc., to protect the excavation. We agree that within certain limits, the method of shoring is left to the contractor's discretion. One of the responsibilities and functions performed in estimating the cost of work is to examine the contemplated work, both as to time sequence and material on a site to determine what shoring will be required to perform the actual work. In this case, as we have stated, the actual work as designed with a pier founded on undisturbed material, constructed in the dry, without piling was estimated to be excavated and the footing poured in the low water stage of the year so that the footing could have been brought up far enough so that the dike would have been reinforced by backfilling in against portions of the completed footing so that the high river stages above elevation 13 in the fall of 1968 would not have breached the cofferdam dike. The State's direction to go to the bearing piling made it necessary to go to the sheet piling cofferdam, so the contractor's "discretion" was limited. We could no longer depend on the dike.

Our actual performance of the work proved that, without the addition of piling, we could have completed these footings to elevations necessary to reinforce the dike to protect it for stages above elevation 13 by November 11, in spite of the fact the work took somewhat longer than we had originally planned. This proves that our estimated plan was practical in that it could be performed in spite of work going somewhat slower than we had hoped. It was not a plan that was impractical or had a low percentage of chance to succeed.

State's Item B - Discussion. Repeating the State's first paragraph, which is absolutely correct, "The contractor's claim is based on his contention that the addition of piling to Pier 1E caused him to add a cofferdam (a sheet pile cofferdam) which otherwise would not have been necessary, and also caused delays which added cost to the work. He, therefore, holds that these extra costs are assignable to the piling and should be included in the payment therefor."

We have shown in the schedule submitted, based on our actual performance of the work, that without the piling added we would have completed the footing to elevation minus 11 prior to November 11, and would have had the dike reinforced by backfilling against the footing to that elevation and raising and pulling the dike in against the pier so that the high river stages would not have affected the work. By the same schedule, based on actual or theoretical performance, we have shown that the amount of work caused by the addition of piling absolutely precluded any chance that this work could have been completed to this stage by high water period of November 11.

The State's next paragraph on page 3 is totally fallacious. Their statement that a prudent, efficient contractor could have completed the pier with the piling, with the cofferdam, etc., with no flood problems from the Willamette River is ridiculous, as is their schedule. They are based on a hindsight evaluation, allowing no time for changes in the work or for decision making. Apparently the State is taking the position that Kiewit is an imprudent and inefficient contractor, a contention that is neither true nor supported by any credible evidence on this job or historically.

The State contends that the cofferdam or some similar type of shoring was required in order to protect the workmen. In fact, we worked crews in the excavation in complete safety without any shoring. We did this until November 12 when high water caused the dike to leak. Very heavy rains for several days softened the dike and the slopes of the excavation, making it necessary to have shoring after this time. However, we have shown (not speculated) by actual work times that the pier would have been built above any danger point, and that the dike could then have been reinforced for higher water, if bearing piling had not been added to the work.

In the next paragraph on page 3 - the State mentions the test pile driving before excavation. Our position is: The contract required the driving of two test piles at Pier 1E, with the possibility of driving two additional piling. The con-

contractor elected to drive these piles before starting pier excavation to save time. 403-3.5, Test Piles authorizes this procedure. If the driving had been delayed until the completion of the excavation, many days would have been required to construct access to the four locations of the test pile. Four trestles would have had to be built and would have taken a minimum of two weeks for each, or 56 calendar days. The actual time required to get delivery of piling was 44 calendar days. The contractor's choice to drive the test piles prior to completion of excavation allowed the State to order the piling and get it on hand. If driving of test piles had been delayed until after the pier excavation, a minimum total time of 100 calendar days would have been required to do the same work that the contractor actually took 73 days to do. No time has been included for actually driving the piles.

Time to [illegible]

The next two paragraphs on pages 3 and 4 concern alleged poor progress in excavation of the pier. Our position is as follows: The State requested on June 26, 1968 that the contractor submit a work schedule indicating when he would be ready to drive piling for Pier 1E. Excavation had not started at this time so the contractor submitted a schedule based on the information he had on how fast or slow the excavation might proceed. As it turned out, the material to be excavated was harder than anticipated. Different sizes of clams and dragbuckets were tried to speed this hard excavation. A D8 Cat was required to loosen up the material in the bottom part of the excavation as a dragbucket wouldn't dig this cemented material. This tough excavation caused the time for doing the work to overrun our longest anticipated estimate by 52 days, approximately 28 day of this time was on a two-shift basis, including some Saturday and Sunday work. This was at considerable expense to the contractor. The actual time required by the contractor to do the excavation still allowed enough time to complete the pier as it had been originally designed, without shoring. In other words, if the piling had not been added, we would still have completed the pier to a point prior to November 11, where the dike would have been reinforced and river stages would not have affected the work. This statement is based on actual time used to do the work and not on conjecture of what might have been or how the work mi[illegible] have been done. The State's [illegible]ision to buy domestic piling rather than foreign was based on the best information possessed by either the contractor or the State at the time.

The State's statement on page 4 that during this time there was no interference in the contractor's work in any possible fashion due to piledriving, added cofferdam, breach dike, etc., because none of these things had occurred at this time, is totally wrong on two counts. First, any competent person should be able to look at the length of time required to do the piledriving and add that to any reasonable schedule they want to use on the excavation work, etc., and see that this piledriving decision absolutely precluded the completion of the work to a safe elevation prior to November 11. Second, there was direct interference with completion of our excavation work. Piling was being unloaded. It was stockpiled near the pier where it eventually cutoff the access around the pier. Preparations were being made for piledriving. The contractor's attention was not 100% focused on getting excavation completed to place footing concrete since much of his attention was on piledriving preparations, which included a cofferdam at that point.

The real issue is whether or not we could have completed the work without the piling to that same point by November 11, and would, therefore, not have had to install the sheetpile cofferdam but for the order to go to bearing piling. We have repeatedly demonstrated on our schedule that, based on our actual performance, we would have completed the footing to that point but for the addition of bearing piling. This is based on our actual progress, which obviously was less than we had hoped.

In the paragraph beginning at the bottom of page 4 and ending on page 5, the State agrees to 50% of our case in that they say we proved our dike was a feasible plan for protecting full depth excavation until November 12 when the river reached a water stage of 11.8 feet. In that same paragraph, the State contends the breach of the dike was caused, in part at least, by the dike being defective due to timbers and debris and by the contractor allowing the discharge of his pumps to fall directly on the river face of the dike. Our position on this is as follows: The failure of the dike around Pier 1E was not caused by the discharge of the pumps falling on the river face of the dike as charged by the State. The major break in the dike occurred approximately 100 feet upstream from the pumps. This break filled in the excavation with over 12 feet of material, buried the pumps, and knocked over 54 sheet piles that we had placed. The cause of the failure was very apparent to anyone observing the ground conditions. The heavy rains had softened the dike and made it unstable. Before this time, if piling had not been added, the contractor would have been poured up to elevation minus 11 with footings, would have been backfilling the footings, and would have had the dike reinforced so that no failure would have occurred.

Again, at the end of this paragraph we are subjected to the theory that the bearing piling, since they have not started yet, did not affect the work and the work was not delayed by the State's order to add the foundation piling. Again, we refer you to our comparison of schedules (Exhibit I) where we show that the addition of bearing piling absolutely precluded us from completing the work without a sheetpile cofferdam.

In the next paragraph on page 5, the State makes a point that large amounts of subsurface running water, aptly described as underground streams, were found in the excavation slope opposite the river. They also state that there is absolutely no connection between this slope instability and the addition of foundation piling. We agree that there is no such connection. It is also agreed that something would have had to be done with the water to channel it around the footing pours, but this would not have delayed the work. Since pour sequences were specified, the water could be detoured while other pours were being made. The State added a tremie to contend with this water coming in, but even with the addition of the tremie we show from our actual performance times that the footing would have been completed high enough to protect the dike.

The next information in this paragraph concerning a letter in the State's files from us that the cofferdam was added due to the sliding of slopes and excavation caused by ground water and water from the Willamette River entering the pier excavation so that we decided to add a sheetpile cofferdam to protect the pier proper and the workmen from any sliding material is from a time extension request letter dated

September 24, 1969. The State ordered bearing piling on June 5, 1968, so this letter should be put in the perspective of the job as it was being run when the comment was made.

We have in our files a letter from the State of Oregon dated October 17, 1968, from Mr. Hart, the same author of this document we are discussing here in this analysis. The October 17, 1968 letter correctly records the meetings leading up to our decision to install the cofferdam and correctly stating and acknowledging that the State knew, prior to our installation of the cofferdam, not only the reasons why we felt prudent judgment required its installation, but also proving that the State knew of the design for the cofferdam and the reasons for it, and proving further that we contended at that time, and at all times, that the addition of this cofferdam was caused by the addition of bearing piling to the pier and that we expected to be compensated for it. I suggest a re-reading by the Board of the October 17th State letter in connection with this point.

The State's paragraph on page 6 alleging a gross misrepresentation of the facts is, in our opinion, a serious distortion of our statements. We cannot see that calling our cofferdam a cofferdam is misleading. It is true that the final cofferdam system included the dike and the sheetpiling, where the original plan, before the addition of bearing piling, involved a cofferdam that consisted of the dike alone. The State's description of the alleged deficiencies of the cofferdam again are beside the point. Repeating the statements from the State letter of October 17, 1968, page 3, the bottom paragraph, Mr. Hitt prefaced the meeting by saying that he felt that all costs related to piledriving at Pier 1E, including those caused by delays which would set the work back into inclement weather, should be the State's responsibility. The cofferdam which he intends to install would be included in this cost. He went on to say that at this particular time no one could say whether or not the cofferdam would be absolutely necessary, but he did not want to gamble on this. Since the cofferdam will be composed of sheetpiling 40 to 45' long, it is not intended to keep high water from the excavation. It is intended to keep silt and river debris out of the pier in the event the river over-tops the dike.

The paragraph on the bottom of page 6 cannot be disputed; however, of course, the cofferdam not only protected workmen but also protected the excavation area from rock and mud from the slopes, since the work had to be prosecuted in high water stages of the year because of the addition of the bearing piling. Since the cofferdam, as we have shown by our schedule of work, would not have been required had the piling not been added, it is caused by the change in the work. Since shoring and cribbing is a lump sum item, additional compensation is required. The State's position is apparently that any work that can be defined as shoring and cribbing will not be paid for even if it is necessitated by State directed changes.

A further point on the cofferdam is that the cofferdam the contractor installed was not extravagantly designed and built. This was partly due to the State's argument over whether or not they were going to pay for it and was, therefore, built to minimum size, sacrificing strength which would have allowed work through the high water stages. A complete engineering study and design by a registered, professional engineer before construction was made to provide the most economical cofferdam possible for the conditions as they existed. The cofferdam provided the stability required to allow the dike to be reinforced and strengthened and to protect the excavation from material coming back to it. The cofferdam was designed to do a specific job of supporting the loose, saturated soil with a depth of 25' before the seal was poured and 15' of the soil, plus 19' of water, after the seal was poured. It performed the function well of holding back soil and water to allow the driving of piles and the subsequent placing of concrete.

Fact after fact shows that without piling being added by the State, the contractor would have completed his work at Pier 1E to the point that by November 12, 1968, the high water and heavy rainsoaked dike would not have been a problem. The requirement of having to install a sheetpile cofferdam or shoring at Pier 1E became a must when the State elected to add piling. When the State contends the work should be paid under the lump sum of shoring item, they are not consistent with their own specifications, which state that payment for installation of piling at Pier 1E would be paid for as Extra Work. The lump sum bid for shoring and cribbing, etc., is not intended to cover any and all things that might occur or arise during the life of the project. This is recognized by the State. As an example, the State compensated the contractor for extra shoring at Pier 2E when it became apparent that shoring was required due to items not shown on the plans.

In their paragraph on page 7, the State repeats the contention that the addition of piling did not push the work into the high water period. In fact, it did push it into the high water period no matter what schedule the contractor could have followed. The State's contention as to the time that should have been used to test pile drive and excavate is non-realistic in the extreme. A simple statement that by accelerating the work done in the summer and fall of 1968, the work could have been out of the water before the spring flood of 1969, therefore eliminating a 13 week delay experienced by the contractor in May, June and July of 1969 when no work was done, is also not realistic. The State contends that they can show by other methods the work could have been done faster. The work might have been speeded up some if the contractor had worked two or three shifts and expended extra monies on more equipment. This is pure speculation. The fact remains that without the piling being added, the shoring was not required. With piling added, the shoring was required and was, therefore, a requirement of the added piledriving as much as the furnishing of the steel piling and driving of it. On this basis, we repeat our request that the contractor be compensated for extra work performed.

EXHIBIT I

Schedule Comparison of Pier 1E

The attached bar graph shows four separate schedules for Pier 1E. It includes the Willamette River elevations on a ten (10) year average and the elevations during the actual construction period.

SCHEDULE "A"

This is the "as constructed" schedule for the pier and includes dates that certain decisions were made.

SCHEDULE "B"

This schedule is based on doing Pier 1E, if piling had not been added to the pier, using the contractor's actual elapsed time for constructing the items of work.

The contract test piles (2 each) were driven in prebored cased holes with the item of work starting May 1, 1968, and completing June 9, 1968; a total of forty (40) calendar days.

Excavation could have commenced at the pier on June 10, 1968, and, by utilizing the actual time it took to excavate said pier, would have completed in 108 calendar days, or September 26, 1968. Concrete work through pour #7 would have been in place by November 1. This would have allowed dike reinforcing of at least 15 foot in width and to a minimum elevation of plus 16 feet. (See PKS drawing "Proposed Backfill and Dike Reinforcing Pier 1E.)

Concrete work through pour #8, bringing top of concrete to elevation minus 10.5, would have been in place by November 8, 1968. This would have allowed dike reinforcing to another 10' to 12' in width and would have allowed a minimum 25' top width at elevation plus 16 if we so desired.

SCHEDULE "C"

This schedule is based on doing Pier 1E with piling added. It is the fastest reasonable schedule which could have been accomplished with the piling added and with added tremie seal starting when the contractor started work but assuming no flood problems with the Willamette River.

The actual time for driving test pile in prebored, cased holes of 73 days is used in this instance as we do not feel it could be improved upon to any significant degree when all aspects of driving test pile are considered, such as: getting the pile driver close enough to the work to do it. The weights of pilehammer, leads, accessories and rigging are such that the crane has to be positioned quite close to the pile being driven.

We have assumed that the excavation work, which took 108 days, could possibly be accomplished in 56 days. It would probably have to go two shifts.

We have allowed 44 days for access trestle construction. This would not be easy work due to heavy loads to be carried, hard to get pile penetration, and bracing of piling due to water depth.

The piledriving, which was a two-shift operation, took 42 days and we have used 42 days.

The seal took six days and we have used six days. This gets the seal in place by December 27, 1968.

SCHEDULE "D"

This schedule is based on the same criteria as Schedule "C" and uses the same amount of total time. In this schedule we have started with the excavation work and have used the same 56 days as in Schedule "C" to accomplish the work.

To accomplish the test pile driving, we schedule to build trestle access and drive four test pile in 56 days. This same trestle access will then be used for permanent piledriving access.

We have allowed 14 days to get ahead on pile splicing, tip reinforcing, and setup for the piledriver.

The piledriving, which was a two-shift operation, took 42 days and we have used 42 days. The seal took six days and we have used six days. This gets the seal in place by December 27, 1968.

Schedules "C" and "D" are both made on the basis of actual time expended or assumed best time possible, without including time for indecision or holdups by either the owner or the contractor.

Several items that have a definite bearing on prosecuting this work should be recognized, such as:

1. Work was started on Pier 1E test pile (2 each) on May 1, 1968.
2. On June 5, 1968, two additional test pile were ordered. On this same date the driving of permanent pile was ordered.
3. Considerable time and large expenses were consumed in September and October, 1968 in pumping and pump tests in an effort to contruct the footing in the dry.
4. The addition of a seal was ordered on January 22, 1969.
5. The contractor's flexifloats that were used for piledriving access were not available to this job prior to November, 1968, and the trestle access, including construction time as shown in Schedules "C" and "D" would have been required.
6. The expended time, in days, as shown on all three schedules are calendar days. The actual workdays on a five-day week basis would be 28.5% less than the number of days shown.

Both schedules "C" and "D" show seal placing in late December. With curing time added this would be January, 1969, before dewatering.

The actual river elevations for the period of 1968 and 1969 are plotted on the bar graph. There is a period of approximately eleven days in late January and early February, and another period of approximately 25 days in March that the elevation is below plus 10. We understood that elevation plus 10 was the water elevation for which the seal was designed. The above days are calendar days and if the weekends are subtacted we get ten days from 35 days, leaving 25 actual workdays. This would have precluded any chance to complete the pier work until after the high water period which extended to July 21, 1969, at which time pumping began at Pier 1E.

EXHIBIT "C"

105-4.2 Shoring, Cribbing, Etc. Shoring, cribbing, etc., will include all work and materials expended in furnishing and placing such shoring, cribbing, cofferdams, etc., necessary to complete the excavation shown on the plans and removal of the same on completion of the work. Measurement will be on an "all required" basis.

105-5.1 Shoring, Cribbing, Etc. Payment for all work in connection with shoring, cribbing, cofferdams, pumping, and other work of a similar nature will be made at the lump sum price bid for "shoring, cribbing, etc.," which price and payment shall be full compensation for furnishing and placing all materials, including all labor, equipment, tools and incidentals necessary in placing the shoring, cribbing, etc., necessary to complete the excavations as shown on the plans and for completion of work. If by order of the engineer, excavations are extended below the elevation called for on the plans and such extension of excavations results in extra cost to the contractor in the construction of the cofferdams, cribs, shoring, etc., the contractor will be compensated for such extra cost in accordance with the terms of the specifications for Extra Work as set forth in Article 4-4, except the extension of cofferdams, cribs, shoring, etc., to reach three (3) feet or less below elevations shown will not be considered nor paid for as extra work, it being understood that payment therefor is included in the lump sum price bid for shoring, cribbing, etc. No extra compensation will be allowed for pumping, it being understood that full compensation for this part of the work is included in the amount bid for "Structural Excavation Below Elevations Shown".

CLAIM REVIEW BOARD HEARING

Contract No. 7124 - Fremont Bridge Piers
Peter Kiewit Sons' Co. Claim for Pier 1E

Highway Division's Review of Contractor's Claim

February 23, 1972

The Review Board has the Contractor's claim letter of November 11, 1970, the Highway Division's rebuttal of this claim, and the Contractor's review of the rebuttal. Two new points are brought out by this latest review and the Contractor's transmittal letter of same dated December 21, 1971.

The first point is a reference to a memo dated October 17, 1968 regarding pile driving for Pier 1E. A copy is attached for the Board's scrutiny. The memo should be self-explanatory.

The second point is that the Contractor claims that the State's desire to drive foundation piles at Pier 1E was not communicated to him at the time of bidding and so there was no "meeting of the minds with respect to the bearing piling alternate when this job was priced". He says that a reasonable Contractor would have interpreted the documents as providing for a piling alternate in case excavation of Pier 1E uncovered bearing material that was incompetent or suspect.

The following is offered to show that this allegation is not valid:

Any experienced bridge contractor working in Oregon would know that any time poor bearing material for footings is found that piling are considered as an alternate and that it is not the Highway Division's practice to show an alternate pile plan for this contingency. If there is a question about the adequacy of the bearing material, piling are designed into the project from the outset. In the case of Pier 1E of the Fremont Bridge, the plans showed four foundation borings for the pier (drawings 23656 and 23657), all located within the 76' x 118' area of the footing. All four consistently showed "silty gravels, gravel-sand-silt mixtures" at the bottom-of-footing elevation, with two indications that this material is "very compact". With this type of foundation information, the chances of this material being "incompetent or suspect" are very remote.

Furthermore, the following pile driving information for Pier 1E was furnished the prospective bidders:

(1) The pile driving hammer specified for Pier 1E was larger than for the other piers. In fact, the hammer specified is one of the largest built.

(2) The piling specified for test piles and for permanent piles for Pier 1E are heavier (stronger) than for the other piers although the design load for all is the same (100 tons).

(3) Test piling were specified to be driven for Pier 1E.

(4) Load tests for test piling were specified for Pier 1E.

(5) The Special Provisions state "After driving and load testing test piles for Pier 1E, the engineer will determine if foundation piles . . . are to be furnished . . . . ".

All of the above information coupled with the foundation borings show that the piling question for Pier 1E at the time of bidding was not whether or not the foundation material was adequate but rather was it possible to drive piling for the pier. This is the reason for the oversize hammer and extra-heavy piling specified, as the only way to answer this question was by the use of test piles.

For clarity, a summary of the Contractor's and Highway Division's positions is offered:

The Contractor contends that the addition of piling to Pier 1E caused him to add a cofferdam which otherwise wouldn't have been needed and requests that the cofferdam's cost be included in the State's extra work payment for piling.

The State contends that: (1) with the notice given on the plans and in the specifications the Contractor should have been prepared for pile driving. (2) The Contractor submitted a bid with his original proposal for "shoring and cribbing" and this cost, which he has already been compensated for, was for the work of maintaining the excavation to allow for construction of the pier, with or without piling. (3) At the time the cofferdam was added to Pier 1E the effect of adding piling on the progress of the work had not been felt so this cost is not assignable to the piling. (4) It would have been possible, if the work had been pressed more vigorously, to construct the pier, with piling added, with no flooding problems. Amplification on each of these points follows:

(1) Contractor should have been prepared for pile driving. The plans and specifications at the time of bidding left no doubt but that piling for Pier 1E were a possibility. They also required certain other work items necessary for construction of the pier. These include; (a) excavation, (b) test pile driving and load test of same (load testing optional with engineer) (c) shoring and cribbing necessary to maintain the excavation, (d) concrete and reinforcing steel for the pier.

When the Contractor planned his method of attack for constructing the pier, thinking of course of the work that would be required including the possibility of pile driving, he had two choices with respect to scheduling. It should be pointed out here that the Willamette River at Portland traditionally floods twice a year; normally in June and again in late November or December. Between these floods, in the summer, the river is at low stages. In the winter and spring, it is less predictable and can have secondary floods at any time.

The Contractor's two scheduling choices were (1) he could expidite the work, get the pier "out of the water" during the summer and fall low stages and thereby possibly get by without a fullblown sheet pile cofferdam; or (2) he could plan to work through the winter flood and provide a cofferdam accordingly. Whichever method he chose, he should have provided an increment of time in his schedule for pile driving. He has indicated that he in fact chose the first method. However, reference to his schedule "A" (As Constructed) will show that he consumed a total of 181 days for test pile and excavation work. This is equal to 26 weeks or one-half year, much of it during the prime low-water river stage. This left precious little of the balance of the low river for the rest of the pier work and, in fact explains the trouble he had with the pier.

It should be pointed out that 33 of the 181 days mentioned above were used in driving two additional test piles. The specifications called for two test piles with the option of adding two more at bid prices. Thirty-three days to do two test piles is extremely wasteful of time under the circumstances; however, this is typical of the Contractor's conduct of the work during the summer of 1968. It should also be pointed out that load testing of a test pile for Pier 1E was deleted by the State. This is work that the Contractor was obligated to do and its deletion saved him probably several weeks time.

The elapse of the 181 days mentioned above (see Schedule "A") brought the Contractor to the first of November and his decision to add a sheet pile cofferdam. Contrary to his statements that "The State's direction to go to the bearing piling made it necessary to go to the sheet piling cofferdam", at this time the work had not been materially affected by the addition of piling. Schedule "A" shows eight days in August and September used for unloading piling. Force Account records (signed by the Contractor) show that a total of 28 hours of crane time was expended during the eight days. With a two-shift, two-crane excavating operation, this works out to be an interference worth one crane for two days or two cranes for one day equivalent. Compared to the 108 days used for excavating, this interference is not significant.

What it boils down to is that the Contractor used up most of the low water stage getting the pier excavated prior to the impact of the State's piling addition on the work. This left him with insufficient time remaining to build the pier prior to flooding. The cofferdam would have been required and the dike would have been breached whether or not the State had added piling to the work.

(2) Contractor's Bid For Shoring And Cribbing. As has been previously mentioned, shoring and cribbing is a bid item describing the work necessary to maintain an excavation. The Contractor submitted a bid for this item covering all four piers, in the amount of $602,000.00. The addition of piling to a pier has no direct effect on the cost of shoring. The Contractor contends otherwise: that the piling required a cofferdam. However, the cofferdam was a result of poor scheduling on his part as has been shown above. He claims that "extra work" in the context of paying for the added piling meant to him a payment also for shoring and cribbing. However, he was already scheduled to be paid his bid item amount for shoring for the pier. Shoring and cribbing is an item of work handled separately from pile driving by the State's Standard Specifications. Shoring is described under Article 105 under Excavation For Bridges. Piling falls under Article 403, "Piles". If it had been the State's intention to pay for shoring and cribbing as Extra Work as part of the extra for piling, this fact would have been spelled out, since shoring and piling are completely separate items.

(3) The Effect The Added Piling Had On the Work At The Time The Cofferdam Was Added. This has already been covered under item (1).

(4) State's Schedule Of The Work With Piling Added. The State has prepared a schedule showing how the construction of Pier 1E could have been done while the

River was at low stages with the same starting of work time as was actually used by the Contractor. It differs from the actual work methods in only one way. Where the Contractor chose to work Pier 1E as a land pier with land-based equipment the State's schedule utilizes floating equipment. This has the advantage of allowing the use of large dredges for excavation and a floating pile driver for test pile and foundation pile work.

The criterion for this schedule was that the pier was to be complete to the stage that the dike system could be reinforced before the winter floods. With this in mind much of the work would have to be done on a two-shift basis. In order to be conservative time-wise, a cofferdam installation with a tremie seal was included in the work. Possibly, since the dewatering would be done in September during low water these would not be necessary. However, some sort of shoring and cribbing would have been required for maintenance of the excavation which would consume a similar amount of time. Time estimates for building the cofferdam, driving bearing piling, pouring and trimming the seal and constructing the footing blocks were made using the actual performance of this work by the Contractor as a guide.

We believe that the 108 days actually used by the Contractor for excavation was extremely wasteful of time. We estimate that this excavation could have been made in five weeks by utilizing both land and water-based cranes and by two-shifting the operation. However, our schedule is such that this work could be extended out to the eight weeks estimated by the Contractor (his Schedule "C") and still meet our deadline.

It should be recognized that with the State's schedule, which is really nothing more than a retrospective analysis of how the work should have been done, getting the pier "out of the water" before the winter floods is not critical.

Once the cofferdam, if one is used, is in place, the piling driven and the seal poured, if the river raises such that the dike is threatened, the excavation can be allowed to flood by turning off the pumps. In this fashion, no serious damage is sustained other than silting of the concrete which is readily flushed away when the river recedes. The Contractor experienced severe damage to his cofferdam when the dike was breached on November 12, 1968 because it was not anchored with piling and a seal. The purpose of this schedule was only to show that it was feasible to build Pier 1E during the summer and fall of 1968 with foundation piling added without experiencing damage from flooding.

Some final words on the Contractor's Schedule "B" which is his estimate of how he purportedly would have constructed Pier 1E had the foundation piling not been added. He contends that this schedule shows, based on his actual performance, that the pier would have been brought safely out of the water without a cofferdam, had the piling not been added. This contention is the basis for his claim.

Line four, page four of the Contractor's review states "We have shown in the schedule submitted, based on our actual performance of the work, (emphasis added) that without the piling added we would have completed the footing to elevation minus 11 prior to November 11 . . . .". This statement is not correct. The Contractor's Schedule "B" presumes to show how the pier would have been built without piling, starting September 26, with the completion of excavation. The Contractor would have you believe that this schedule is based on the actual work he did constructing the pier since in his review he uses the phrases, "actual performance", "actual work", "actual time" and "actual progress" a total of six times when referring to this schedule (pages 3, 4, 5 and 6).

Schedule "B" shows the excavation completed on September 26, and about nine days later shows two footing blocks poured. In doing this the Contractor has completely ignored two vital problems which would have to have been solved before any concrete could have been placed in the excavation; namely the unstable banks of the excavation and the running ground water. These problems were solved during the actual pier construction by means of a steel cofferdam and a tremie seal. It can be argued that other types of shoring than a cofferdam could have been used; however, no matter what was used time must be provided on the schedule for its installation. The State's schedule provides for 4-1/2 weeks for this.

The Contractor mentions the question of shoring on page four of his review and dismisses it by remarking that "We worked crews in the excavation in complete safety without any shoring". The Board's attention is directed to photographs 2 and 3 of our original presentation. A large slide is evident in the center of the pictures. You can imagine what would have happened if a crew of men had been under that slide when it let go. The "crews" the Contractor mentioned consisted of one man operating a tractor on the bottom of the excavation and the several workmen depicted in photo 3 placing the bracing for the cofferdam. The Resident Engineer's diary on October 21 states "Excavating with a cat and dragline. Slides on both NE and NW corners of hole and most of excavation today is removing slide material". It is inconceivable that anyone would consider working people to the extent necessary to construct a reinforced concrete footing in an unshored excavation with the unstable slopes that were present.

The running water in the excavation was estimated at 20,000 gpm by the pump capacity necessary to handle it. This problem was recognized by the State with the addition of a seal to the pier. This seal cost about $90,000. Even with a cofferdam and seal, the Contractor ran into problems with running water inside the cofferdam during the first footing pour. Faulty concrete from which the cement had been washed during the placing operation had to be removed. This delayed the actual work about two weeks. The Contractor has completely ignored this problem in his "actual work" schedule.

It should also be mentioned that, contrary to his drawing showing the dike at Pier 1E, the actual footing was not poured vertically against the excavation. This was an original plan requirement which was waived when foundation piling were added. Had the Contractor been required to pour the footing excavation full as his drawing shows, the water problem would have been compounded because there would not have been available a channel between the cofferdam and the excavation to carry off the running water.

The problems mentioned above with regard to shoring and water would have been solvable. However, time would have been required to work out solutions. The Contractor's Schedule "B", therefore, is not a valid representation of the "actual" work done because it ignores these most critical items. If time had been allotted in the schedule for this work, then the backfilling to reinforce the dike could not have been done prior to the date of the dike collapse. Or, to say it another way, if Schedule "B" was a true representation of the "actual" time of construction of the pier, pour No. 6, the last footing block and the key to backfilling, would not have been made until November 23, 11 days after the dike was breached, and this still does not allow for any time to install shoring.

We believe that the Contractor's claim for extra payment for a cofferdam at Pier 1E based on the addition of foundation piling is not valid because the need for the cofferdam was brought on by the way the Contractor prosecuted contract work for the pier prior to the time the impact of foundation piling was felt on the job progress.

CLAIM REVIEW BOARD HEARING

Contract No. 7124 - Fremont Bridge Piers
Peter Kiewit Sons' Co. Claim for Pier 1E

12-8-70

Highway Division's Rebuttal of Contractor's Claim

A. General discussion of the Plans and Specifications as they relate to this claim.

1. The work under the contract consisted of constructing the four piers for the Fremont Bridge. The two main piers, 1W and 1E, are located directly adjacent to the Willamette River but are accessible from the shore during normal river stages. The two end piers, 2W and 2E, are located some 450 feet behind the main piers.
2. The plans and specifications called for Piers 1W, 2W and 2E to be founded on steel bearing piling. The Division desired also to found Pier 1E on steel piling, but due to the underlying material being composed of heavy, compact gravels it was not certain prior to the actual time of construction whether piling could be driven into this substrata. For this reason, and to determine, if needed, the proper length of piling, the specifications called for as many as four test piles to be driven at Pier 1E. They also stated (page 32) Exhibit "D" that after these piles were driven "the engineer will determine if foundation piles, as indicated by the 'alternate pile footing plan' shown on Drawing No. 23666, are to be furnished and driven in this pier." This specification went on to state

Note This

that this work would be paid for as "extra work" and defined this extra work as "the furnishing of 14 BP 117 piles and driving these piles...." There should have been no doubt in the prospective contractors' minds at the time of bidding that there was a distinct possibility that piling would be required for Pier 1E, and Peter Kiewit Sons' Co. have never disputed this.

3. One of the items of work necessary for the construction of major bridge piers is providing the means to "maintain the excavation" during the pier construction. The Division recognizes this and provides a bid item, "Shoring, Cribbing, Etc.," to pay for it. See Standard Specifications, Articles 105-4.2 and 105-5.1. Exhibit 'C' Generally, this item covers work "necessary to complete the excavation shown on the plans." Contractors usually perform this work by either (1) over-excavating the pier in such a manner that the slopes are stable within themselves, (2) providing some sort of shoring or cribbing to support the excavated slopes where there is insufficient room to lay the slopes back, and (3) specifically in the case of a pier in water, providing a cofferdam to keep the river out of the work. The method of shoring is left to the contractor's discretion so long as it allows the production of a satisfactory end-product, the completed pier, and does not endanger life or property.

B. Discussion

The Contractor's claim is based on his contention that the addition of piling to Pier 1E caused him to add a cofferdam which otherwise would not have been necessary and also caused delays which added cost to the work. He therefore holds that these extra costs are assignable to the piling and should be included in the payment therefor.

The State can show that the cofferdam or some similar type of shoring was required in order to protect the workmen within the excavation and would have been required whether or not the piling had been added. Furthermore, it can also be shown that a prudent, efficient Contractor could have completed Pier 1E with piling, with the Contractor's cofferdam, with the added tremie seal, starting when the Contractor started work, with no flood problems from the Willamette River. For these reasons, it is felt that there is no basis for the Contractor's claim.

Work started on Pier 1E on May 1, 1968, with test pile driving. The Contractor chose to drive the test piles before making the excavation by using steel casings sunk to the elevation of the bottom of the footing. This proved to be a very slow process as it took him 40 days to drive four piles. He was advised on June 5 that foundation piles would be required for the pier, and the order length was furnished him on June 26.

At this time the Contractor was asked to furnish the State a work schedule which would indicate the date when he would be ready to drive foundation piles. See exhibit A It was necessary to know this date in order for the State to decide whether to order domestic or foreign piling. Domestic material is available more rapidly than foreign, but is more expensive. This schedule indicated that, under the best conditions, domestic piling would be needed in order not to hold up the project. The order was so placed, and piling arrived at the site on August 8. As it turned out, the Contractor's progress was so poor that he was not ready for piling until February, 1969. This caused the State an added cost of about $40,000, the difference in cost between domestic and foreign material, which was wasted due to the Contractor's poor progress on the excavation of the pier.

To illustrate this poor progress, the Contractor's schedule just referred to with regard to ordering piling indicated that under good conditions the excavation would require 35 days, and under the worst conditions, 56 days. He actually used 112 days to perform this work, during July, August, September and October which are the months when the Willamette River is at its lowest stages. During this time there was no interference in his work in any possible fashion due to pile driving, added cofferdam, breached dike, etc., because none of these things had occurred at this time. Bear in mind that this excavation work took more than three times as long as the Contractor had planned under his "best" schedule and twice as long as under his "worst" schedule. This was due solely to his poor prosecution of ~~this work~~ the excavation for the pier, as there was nothing particularly unusual or difficult about ~~it~~ this work. This is most important to note because it shows that his statement that the piling added to the pier "pushed the excavation and concrete work below elevation 16 into the highwater period on the Willamette River" simply is not true. His excavation work was "pushed" into high river stages because he didn't choose to do it any sooner, not because of foundation piling added by the State, which, at this point, had not affected his work.

The Contractor apparently planned on protecting the excavation from the Willamette River by means of a dike built between the two. Since the bottom of the excavation was at elevation -35 this dike would have to withstand a hydrostatic head of at least 45 feet. He proved that this was a feasible plan, insofar as it did keep the river out of the excavation for some time. However, on November 12 the dike was breached by the river at water stage 11.8 feet. Flood stage in the Willamette at this location is about 21 feet, which shows that a water stage of 11.8 is not particularly high nor unusual. The breach was caused, in part at least, by the fact that the upper part of the dike contained timbers and debris resulting from his demolition of the building formerly at the site, and that he had allowed the discharge from his pumps to fall directly onto the river face of the dike, washing out the fines and thereby weakening it. (Photo No. 1 & 1A) Bear in mind, again, that at this point in time the Contractor's work had not been affected nor delayed by the State's order to add foundation piling, since piling work had not started at this time.

The Contractor's claim is based on his contention that piling added to Pier 1E by the State caused the need for the cofferdam. The State contends that a cofferdam, or something similar, would have been required whether or not piling had been added, for protection of the workmen. Upon completion of the bulk of the excavation for the pier, large amounts of subsurface running water, aptly described as underground streams, were found in the excavation slope opposite the river. (Photos No. 2 and 3) This water caused this slope to be unstable and would have required shoring whether or not piling had been added. There is absolutely no connection between this slope instability and the addition of foundation piling. The cofferdam was added to protect workmen from slides resulting from this underground water. We have a letter in our file from the Contractor Exhibit "D" which states, "Due to sliding of the slopes of the excavation caused by ground water and water from the Willamette River entering the pier excavation, we decided to add a sheet pile cofferdam to protect the pier proper and workmen from any sliding material."

The Contractor's statement on page 2 of his claim letter of November 11, 1970, that "The added work and time to do the foundation piling installation required that the dike system of protecting the pier be abandoned in favor of a complete sheet pile cofferdam" is a gross misrepresentation of the facts. In the first place, the dike system was never abandoned at any time. Photo #cf. It was ultimately reinforced and utilized, as intended, to keep the river out of the excavation. Secondly, the cofferdam was never able nor intended to keep the river out of the excavation. You have already been read the Contractor's explanation of its use. In fact, even to call it a cofferdam is misleading. It was not structurally capable of supporting any appreciable hydrostatic head due to its very light construction since it had only two sets of "wales" or supporting beams, whereas you would expect to see twice that number in a cofferdam designed for the full water head involved. It only extended to about elevation +9, which is below all except the lowest river stages, so that it obviously couldn't function as a cofferdam. Recognizing its weaknesses, the Contractor cut holes in it at elevation -5, some 15 feet below the river surface, so that in case the pumps failed or the dike was breached again, which would cause the excavation to be flooded, the cofferdam would also flood; otherwise it would have been crushed by the hydrostatic load.

This cofferdam was utilized as a rock and mud shield to protect the workmen from unstable excavation slopes. This is exactly what "shoring and cribbing" as defined in the specifications is for and the Contractor has already been paid his bid amount for this type of work. The cofferdam would have been required regardless of the State's directive to add piling to the pier; therefore it is not logical to assign its cost to the piling work as the Contractor's claim requests.

The Contractor has also claimed that the addition of piling pushed the work into the highwater period of the river causing added expense. We have already shown that this "pushing" into adverse working conditions was caused by the Contractor's own prosecution or, more properly, lack of prosecution of work not affected by the piling. In addition, the State can show that, using expeditious construction practices, the pier, with dike protection and the Contractor's cofferdam, with the added foundation piles and tremie seal, and starting work at the same time the Contractor did, could have been brought up in sufficient time to avoid any problems with flooding. This proposed work schedule indicates that the pier construction could have been completed in February 1969 instead of January 1970, the actual completion date. This would have been possible principally for two reasons: (1) the test pile driving and excavation work could have been completed in June of 1968, utilizing about six weeks' time, compared to the 25 weeks actually used by the contractor; and (2) by accelerating the work done in the summer and fall of 1968 thereby taking advantage of the low river stages of the Willamette (which a prudent contractor would be expected to do), the work would have been "out of the water" before the spring flood of 1969 thus eliminating the 13-week delay experienced by the Contractor during the high-water period in May, June and July of 1969 when no work on the pier was done.

We believe we have shown or can show that the need for a cofferdam at Pier 1E was not caused by the State's addition of foundation piling nor was the addition of piling a factor in the delays which pushed the pier work into the highwater stage of the river. For these reasons, we do not feel that there is any basis for the Contractor's claim.

With regard to his claim for additional calendar days due to his problems at Pier 1E, since there is no basis for the monetary claim, there is no basis for extra workdays. In any event, any discussion regarding calendar days with reference to Pier 1E is academic since this was not the last pier completed.

Edward L. Hardt
Assistant Metropolitan Engineer

EXHIBIT "D"

PETER KIEWIT SONS' CO.
CONTRACTORS
ESTABLISHED 1884
HOME OFFICE - OMAHA, NEBRASKA
P. O. Box 1777
VANCOUVER, WASHINGTON 98663

September 24, 1969

Oregon State Highway Department
5821 N. E. Glisan
Portland, Oregon 97213

METROPOLITAN ENGINEER
RECEIVED
SEP 25 1969
☐ ME ☐ AME ☐ AME ☐ MOE ☐ MDE ☐ MTE

Attention: Mr. Edward L. Hardt
Assistant Metropolitan Engineer

Re: OSHD Contract No. 7124
Fremont Bridge Piers
Fremont Job No. 3994
Serial Letter V-85

Gentlemen:

We have received your letter of September 16, 1969, regarding the first footing block of Pier 1E.

Mr. Hitt and Mr. Johanson viewed the four core samples taken from this footing block and agreed that one sample did show that approximately 1' of the bottom of the core was composed of concrete that should be replaced. We did not agree, however, that it was our responsibility to replace this concrete at our expense.

We deny any financial responsibility for replacing any unsound concrete for the following reasons:

The contract drawings for this project, Drawing No. 23659, states that the footing concrete is to be poured against undisturbed soil on all sides of the footing. Work was started and proceeded to accomplish this. Due to sliding of the slopes of the excavation caused by ground water and water from the Willamette River entering the pier excavation, we decided to add a sheet pile cofferdam to protect the pier proper and workmen from any sliding material.

When the cofferdam was completed, we tried to pump the excavation dry to proceed with the work, but the volume of water entering the excavation was greater than the 21,000 G.P.M. that our pumps would handle. We were instructed by the Oregon State Highway Department to add a seal to the cofferdam as it was not desirable to have 21,000 G.P.M.+ running through the concrete placing area.

We discussed at meetings with the Oregon State Highway Department that any water coming into the cell would be confined as much as possible to the area next to the sheets. This was done successfully at P-1W. The same procedure was used at P-1E during the pouring of the first footing block. There was more water entering the cell at P-1E than we experienced at P-1W which made it harder to control. The Resident Engineer, Mr. Shotwell, observed the majority of the concrete placement and, on one occasion, stopped the pour when the water situation was not satisfactory and the pour was not allowed to proceed until the water was back against the sheets, and the rocks that were left when the cement was washed out, were removed. If it was not satisfactory to continue the pour, Mr. Shotwell would not have given permission to continue.

The concrete placement for this pour, as well as every pour made on this project to date, was under the direct supervision of the resident engineer, assistant resident engineer, and eight (8) inspectors who directed where the concrete should be placed, where it should be vibrated and how long it should be vibrated. Individual workmen were instructed by State representatives without informing our supervision at the pour location.

We complied with the specifications for this project, but the design requiring that the footing be poured against the sheets made it impossible to control the water any other way. The conditions at P-1E were changed considerably from what the Oregon State Highway Department or Peter Kiewit Sons' Co. expected or could have anticipated when the contract was let.

The second footing block poured was very satisfactory and was accomplished by constructing a plywood water channel around the outside of the footing and inside of the sheets of the cofferdam. This method was not in accordance with the specifications and was not used until approval had been obtained from the resident engineer. The changed conditions were recognized by all for this pour and the necessary changes were allowed and made.

PETER KIEWIT SONS' CO.

Oregon State Highway Department
Page - 2

September 23, 1969

The removal of the concrete has started, as your letter directed, and we request that compensation for this work be made in accordance with Article 9-6 of the Standard Specifications.

Yours very truly,

PETER KIEWIT SONS' CO.

Ronald C. Johanson

Ronald C. Johanson

RCJ/hms

cc: Res. Eng. (3)
Job
File

EXHIBIT "B

R

Fremont Bridge Section

After driving and load testing test piles in Pier 1E, the enginee will determine if foundation piles, as indicated by the "alternate pile footing plan" shown on Drawing No. 23666, are to be furnished and driven in this pier. If it is determined that foundation piles are to be used in construction of this pier, such work shall be performed and paid for as "extra work" in conformance with Article 4-4. This work would include the furnishing of 14 BP 117 piles and driving these piles with the same hammer used in driving test piles in this pier.

SECTION 404 - CONCRETE MASONRY

404-2.11 Low Shrinkage Grout. Low shrinkage grout shall be a mixture of cement, sand, processed inert materials and admixtures that will not shrink during the plastic state and after 14 days shall not shrink below its original volume. If grout containing metallic material is used the exposed areas shall be protected so that the adjacent concrete does not become stained. The grout shall have a minimum strength of 4,000 lbs., at 7 days. The contractor shall submit for approval the grout he proposes to use and must prove that this material has been in satisfactory use for at least 6 years in similar installations.

404-3.2(b) Air entrainment - Air-entrainment agent interground at the mill with the cement clinker will not be accepted; air-entrainment agent shall be added to the mix at the mixer.

404-3.2(c) Water reducing admixtures - All concrete, including tremie concrete, shall include an approved water reducing set retarding chemical admixture. The amount of admixture used shall be as recommended by the approved manufacturer and as approved by the engineer.

404-3.5 Mixing Concrete. Concrete shall be mixed at an approved central batching - mixing plant or at the job site except as follows:

> When placing the tremie concrete seal, one or more modern and dependable batch type mixing plants shall be maintained at the cofferdam site. The plant or plants for placing concrete inside the sheet piling shall include not fewer than two complete mixers, with separate power plants, and be so arranged that a minimum mixing capacity of 165 cubic yards per hour is made available and ready for use. During

FORM 2-90 50M 10-65

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
October 17, 1968

To: Memo To The Files

SUBJECT: Fremont Bridge Piers
Contract No. 7124
Pile Driving For Pier 1E

This memo is being written to document the events of the past few days regarding planning for pile driving for Pier 1E of the Fremont Bridge. This work will be done by Peter Kiewit Sons' Company, contractor on the project, on a force account basis.

October 10, 1968

A meeting was held in the Metropolitan Engineer's office to discuss methods for pile driving for Pier 1E. As of this date, October 10th, it was anticipated that the excavation for the pier would be completed within the next two weeks, and since it has now been established that the excavation can be dewatered, it was felt appropriate to make definite plans for pile driving at this time.

Attending this meeting for the contractor was Bill Hitt and Ron Johanson; for the State, Mssrs. Merchant, Johnson, Rear, Hardt, Shotwell and Bennett.

Bill Hitt proposed to complete the excavation for the Pier so that it would be ready for footing construction. At this point, pile driving operations would begin on a force account basis and said force account would not be completed until the pile driving was completed and the excavation was again ready for footing construction. Included in the force account costs for this period would be the pumping charges necessary to keep the hole dewatered and the cost of removal of material thrown up by the pile driving if required.

The State's people agreed to this concept with the exception that any shoring done for the maintenance of the excavation would be considered contract work and paid for under the "shoring" item and not force account.

When Mr. Hitt was informed of the State's viewpoint regarding the maintenance of the excavation, he said he wanted to confer with his legal people to obtain their opinion regarding the Contractor's liability for shoring during pile driving. He stated that if they felt this is a contractural obligation, then he would consider installation of a cofferdam prior to pile driving.

The method of pile driving was discussed and it was mutually agreed that the best method would be by floating the driver on pontoons. Installation of a cofferdam as mentioned above, however, would change this method.

Mr. Hitt was told that the State desires to use a 0-20 hammer for the pile driving and that it should be ordered in time so as not to hold up driving operations. He expressed concern over the "extra-ordinary maintenance" which may be required for the hammer due to the anticipated hard driving and he asked who would pay for this.

In order to define the pile driving requirements, Mr. Merchant stated that the State wants to obtain as much penetration as possible and would be content with an average of 25 feet of penetration. The piling will be driven alternately to avoid progressive consolidation of the underlying material. They will be driven no harder than to "practical refusal." It was proposed that Peter Kiewit Sons' Company present these conditions to prospective hammer renters to determine rental agreements as related to maintenance.

The question of payment for piling for Pier 1W was brought up. Mr. Hitt presented a letter from his supplier relative to the cost of different lengths of piling. Mr. Merchant said he thought this letter would settle the question if officially presented to the Department by the Contractor. Mr. Hitt went on to say that he intended to press for additional costs of pile driving at Pier 1W pending approval by Mr. Ed Lynch.

October 11, 1968

Mr. Hitt called me Friday morning to say that he had roughed out a schedule of pile driving for Pier 1E and based on this and the expected water stage of the Willamette River during the next few months, he had decided to install a cofferdam. Since this completely changes our method of pile driving, we agreed to meet again shortly to devise a driving method compatable with the cofferdam.

October 14, 1968

A meeting was held in Mr. Merchant's office to discuss methods of driving piling within the Contractor's proposed cofferdam at

Pier 1E. Attending this meeting were Mssrs. Merchant, Rear, Johnson, Hardt and Shotwell. Mr. Merchant had prepared a plan for pile driving access into the cofferdam. An approach trestle would be built from the edge of the excavation to the face of the cofferdam. It would be composed essentially of steel piling with timber stringers and deck. It would be well braced as it would have to be self-supporting. For access within the cofferdam, a longitudinal trestle would be built which would be supported on the permanent piling. The seven center piling in every third row would be extended to support the trestle which would have a deck elevation of about 15. This trestle would consist of timber stringers and timber deck. It would be well braced as it would be completely independant of the cofferdam. The width of the deck was selected such that Kiewit's 3,900 crawler crane presently on the site would be able to laterally reach all of the foundation piling from the trestle.

Not having the Contractor's cofferdam plan, the effects of the struts on our pile driving were not known at this time. A meeting has been scheduled for the following day with the Contractor to discuss this. It was also felt that he should check over our trestle design to satisfy himself of its adequacy for his equipment. Mr. Schell attended the meeting briefly, was apprised of our plans and concurred with them.

October 15, 1968

A meeting was held in the Metropolitan Engineer's office to further discuss Pier 1E pile driving. Representing the Contractor was Bill Hitt and Ron Johanson. Representing the State Were Mssrs. Merchant, Johnson, Hardt, Shotwell and Bennett.

Mr. Hitt prefaced the meeting by saying that he felt that all costs related to pile driving for Pier 1E, including those caused by delays which would set the work back into inclement weather, should be the State's responsibility. The cofferdam, which he intends to install, would be included in this cost. He went on to say that at this particular time, no one could say whether or not the cofferdam would be absolutely necessary but he did not want to gamble on this. Since the cofferdam will be composed of sheet piling, 40 to 45 feet long, it is not intended to keep high water from flooding the excavation. It is intended to keep silt and river debris out of the pier area in the event the river overtops the dike. In reply to Mr. Hitt's statement about the cost of the cofferdam, Mr. Merchant reiterated that it was the State's position that the plans and specifications gave notice to the contractor that piling would be driven if possible and that his bid for excavation and for shoring should have taken this into account. Mr. Hitt was informed that he should file a written notice of his intention to file claim for the above mentioned costs.

Mr. Hitt mentioned that the cofferdam would have two frames, one about nine feet from the bottom, and the other about elevation plus five. He intends to backfill it about 12 feet deep.

Mr. Merchant presented our plan for pile driving as described above. Considerable discussion was held regarding the best method for pile driving and Mr. Hitt proposed that a "spud and walking beam" apparatus be used. This "walking beam" will be supported by the trestle and be independent of the cofferdam. Since this apparatus appeared to have the most advantages, its use was adopted by the group.

With regard to the trestle, Mr. Hitt felt that a more economical design would be one utilizing two runs of steel stringers, each run to directly support each crawler tread. He feels that his crane, spotted on the center line of the pier, can laterally reach all the piling without shifting. He will work up a design for the trestle along these lines. He believes he has steel beams on hand for the stringers. If not, it's possible State-owned beams could be used.

Mr. Hitt was authorized to proceed with the above mentioned design work as part of the force account work for the pile driving. However, he was cautioned that Mr. Johanson, being a superintendant, could not perform any compensable engineering work. Mr. Shotwell will keep track of this engineering work on a day-by-day basis as per all force account work.

Regarding rental of a pile hammer, Mr. Hitt again expressed concern over the possibility of extreme hammer maintenance due to the anticipated hard driving. He has located what he believes is a new O-20 hammer to be rented from ConMaco Company in St. Louis for $2,600 per month, freight additional. He was asked to obtain a definite lease agreement with that company and it's expected that this agreement would obligate the leasor for normal "wear and tear." The State's people proposed that any maintenance required beyond normal "wear and tear" would be the obligation of the Highway Department. By this approach, the Contractor would not be asked to gamble on the repairs which will be required.

As to schedule, Mr. Hitt said that he thought that it would take three to four weeks to install the cofferdam and he guessed that six weeks of double shift work would be required to complete the pile driving. This would mean that the pile driving should be completed about the first of the year.

It is anticipated that another meeting will be held with the Contractor and our cost analyst people to reach an agreement as to force account procedures to follow for the work.

October 17, 1968

I called Bill Hitt and talked to him regarding backfilling of the excavation for Pier 1E. This subject was overlooked at our previous meeting. I told him we wanted at least the bottom half of the footing excavation backfilled with the same type of material (non-compressible) as came out of this part of the excavation and that it should be compacted as well as conditions would permit. This would be in lieu of either pouring the sides of the footing against undisturbed material as shown on the plans or leaving in the sheet piling as mentioned in the Special Provisions.

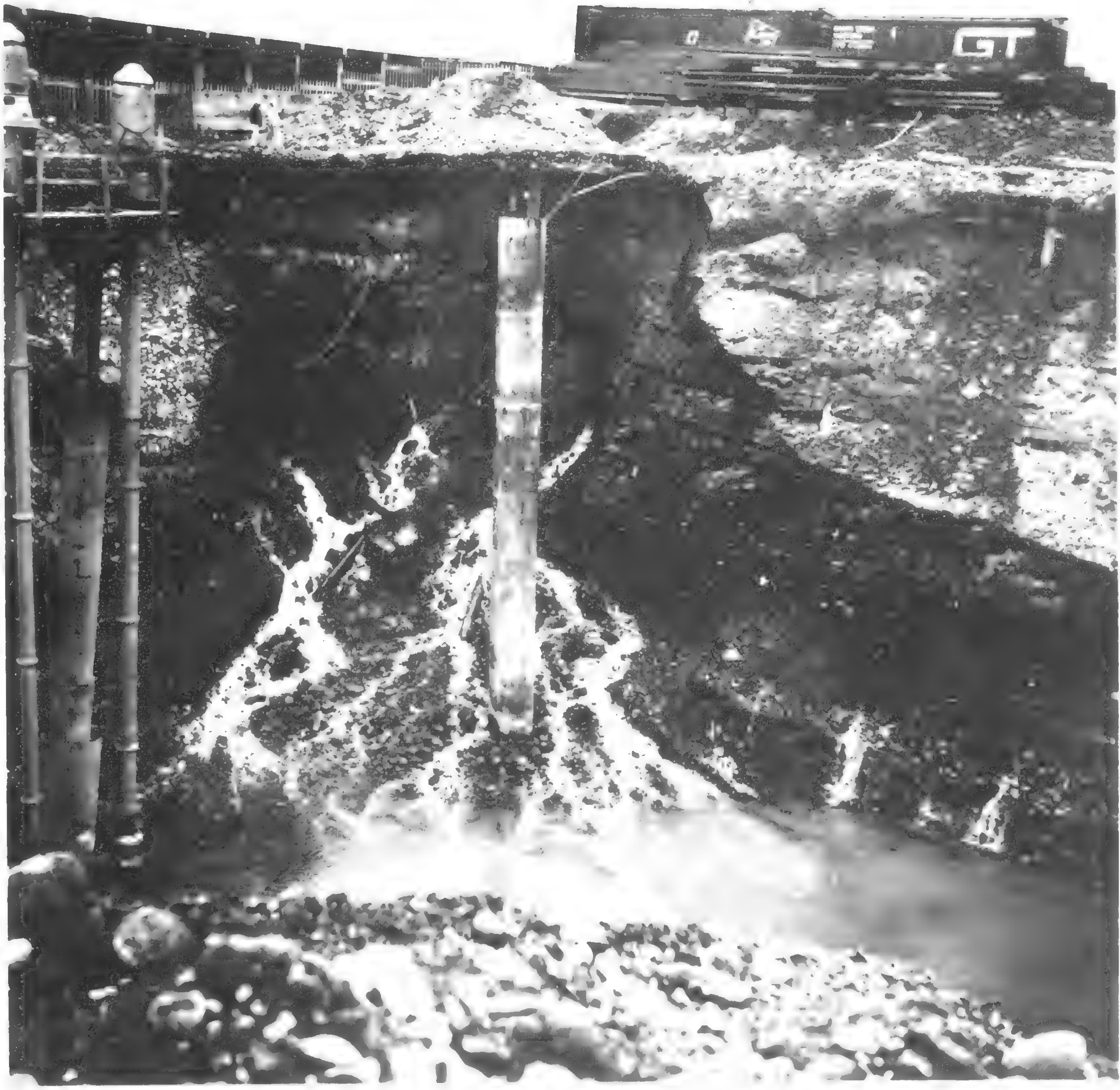
Mr. Hitt told me that they planned to install an 8-inch perforated drain pipe around the cofferdam at the bottom and to backfill with some type of free-draining material (he mentioned crushed rock). The idea is to cut off the ground water before it enters the cofferdam. He offered no objection to compacting this material and mentioned that quite a bit of the excavation will be within two feet of the cofferdam and in these areas a weight or rod of some kind could be dropped in order to obtain some compaction of the backfill material.

A. E. Johnson
Metropolitan Engineer

By:
Edward L Hardt
Edward L. Hardt
Assistant Metropolitan Engineer

ELH:pb

cc: Tom Edwards
Robert Shotwell
Ivan Merchant (2)
Peter Kiewit Sons' Company
ATTENTION: W. D. Hitt
Dear Mr. Hitt: If any of the above is inaccurate or incomplete in your estimation, feel free to comment.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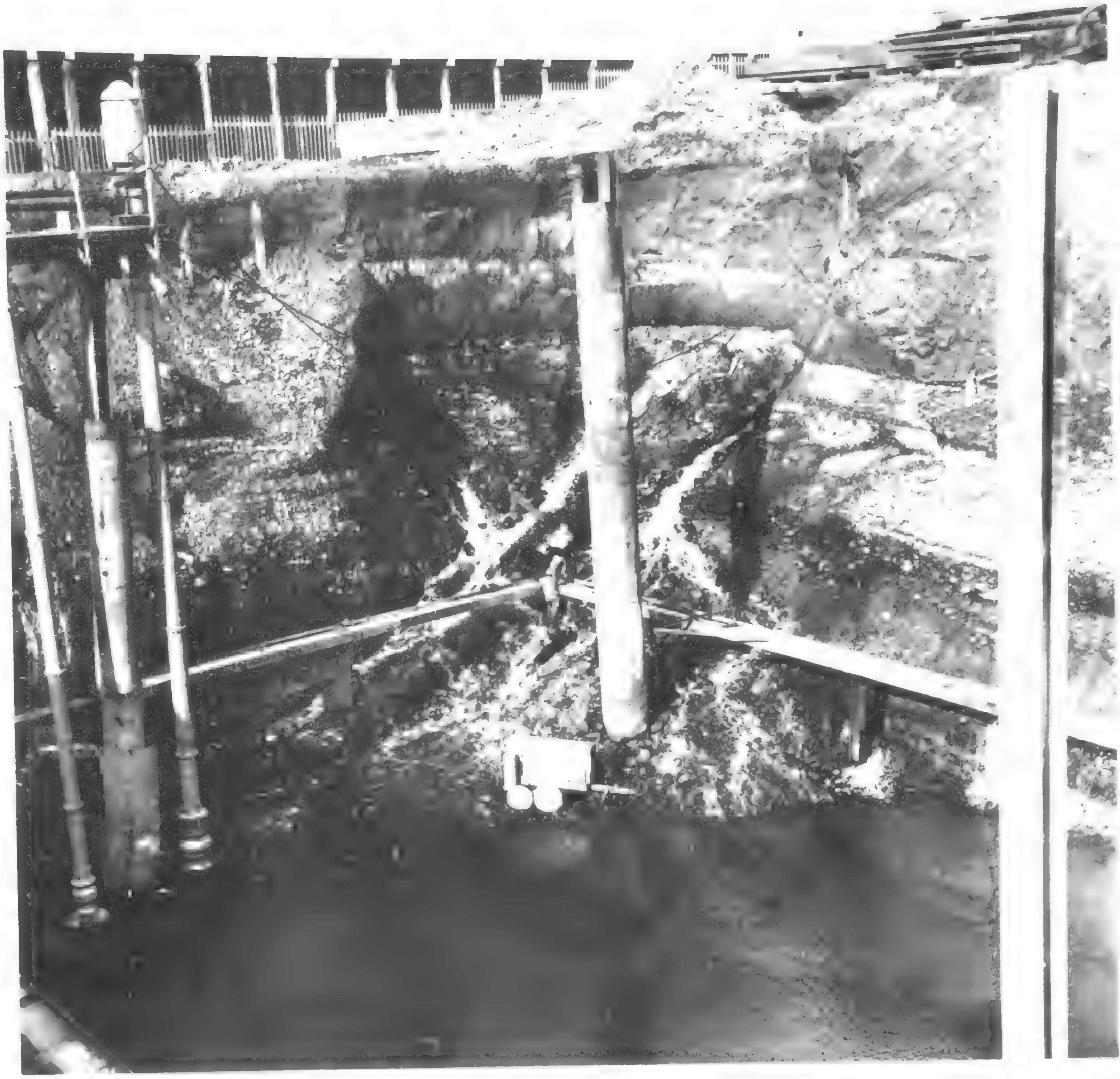
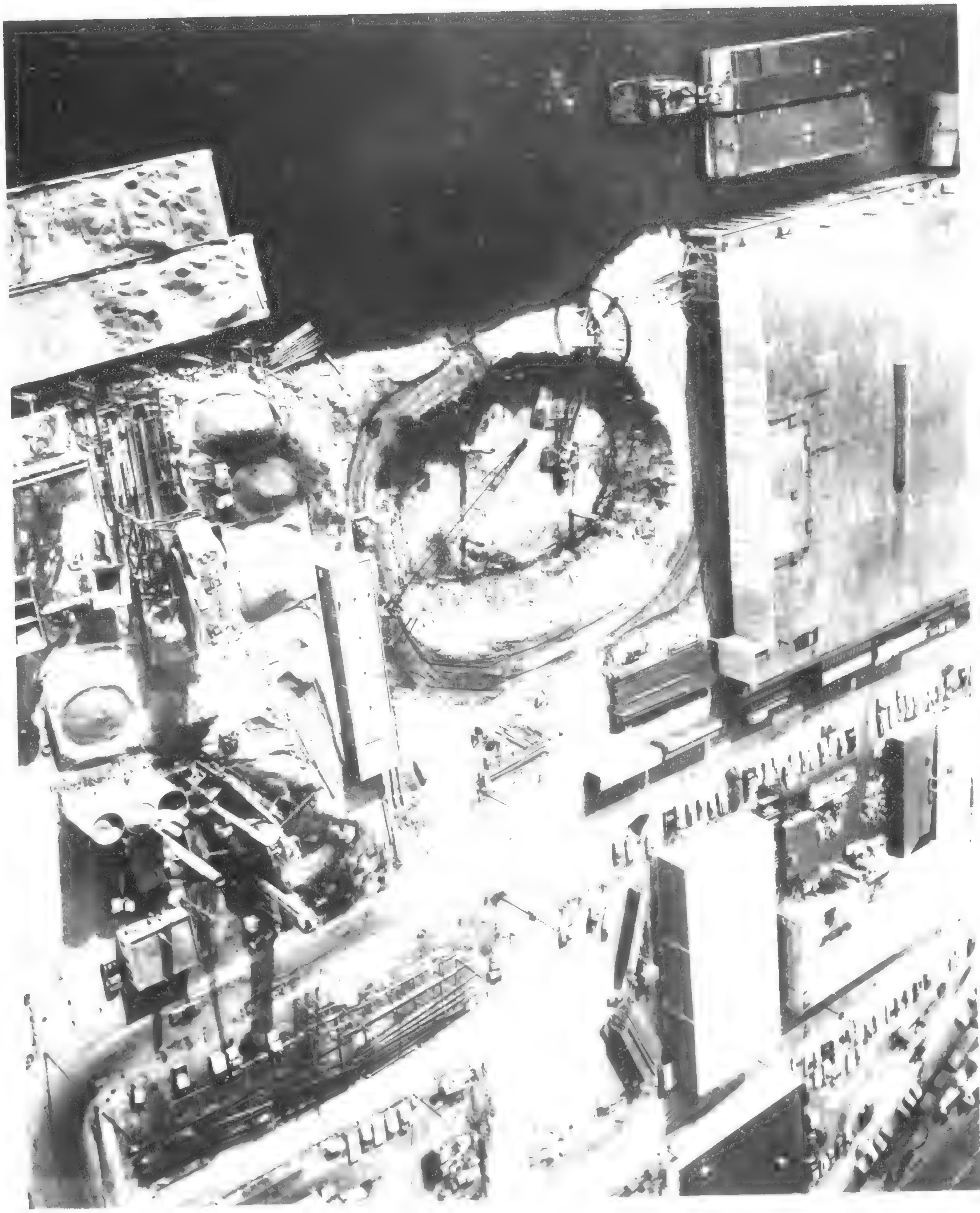
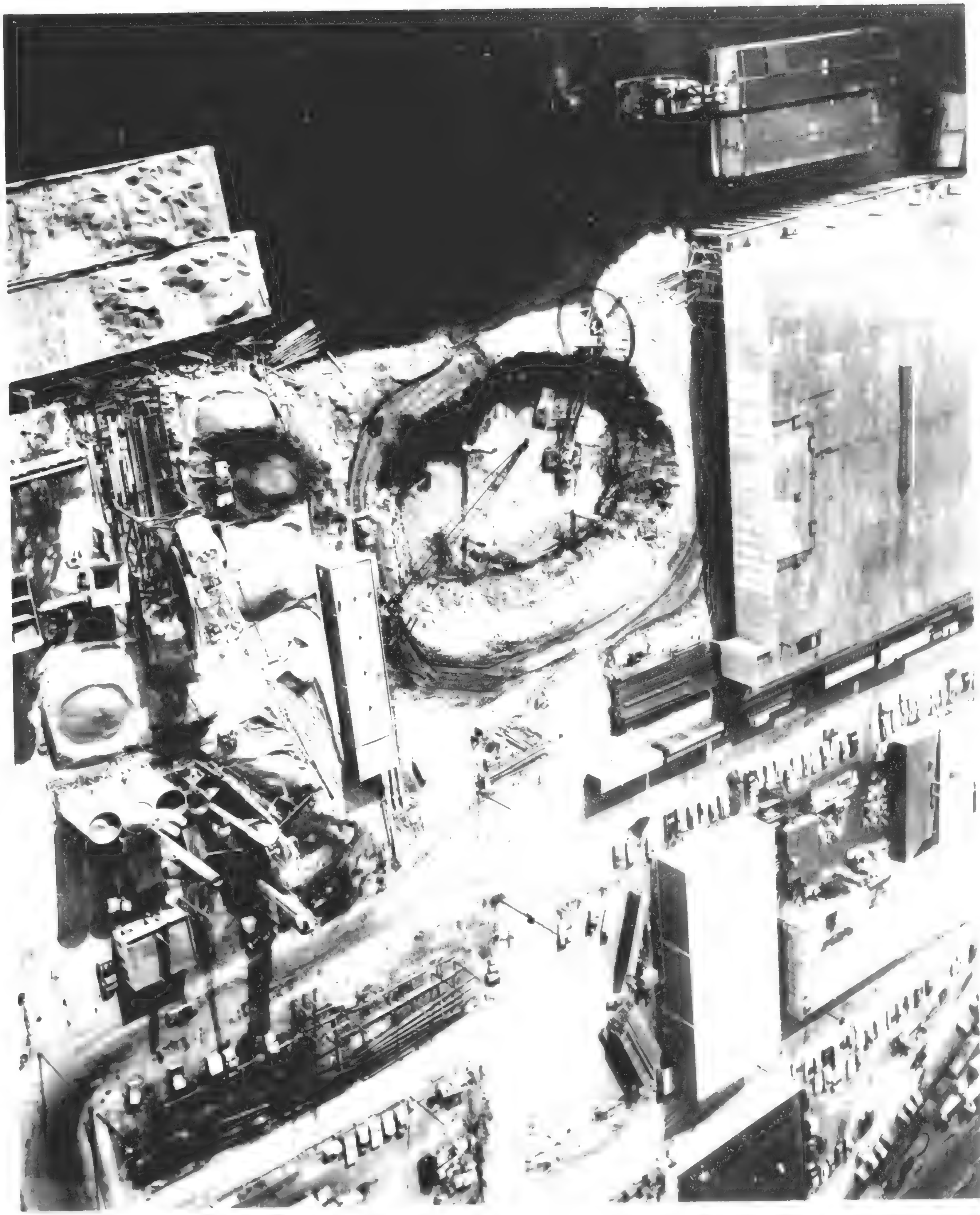




3-4-67



9-30-'68

ENLARGED
AREA

A 361-14

RECEIVED
FOR FILING

Gen. Files

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
March 20, 1972

SUBJECT: Fremont Bridge Piers
Contract No. 7214
Contractor's Cofferdam Claim

To: F. D. Morgan
Construction Engineer
State Highway Building
SAlem

ATTENTION: John Bond

NOTED
A. E. JOHNSON

Enclosed you will find six packets of data pertaining to Kiewit's claim for the cofferdam for Pier 1E of the Fremont Bridge. These packets consist of the following data.

1. My latest review of the Contractor's claim which is dated February 23, 1972.
2. My original "rebuttal" of the Contractor's claim which was presented to the Review Board on December 8, 1970 together with the exhibits and photographs that are part of that presentation.
3. A copy of a memo written by me dated October 17, 1968. This memo was mentioned in the Contractor's latest transmittal letter of his claim and is included for the Review Board's scrutiny.

Per our phone discussion this material is being sent so that you can set up the next meeting with the Contractor and the Claim Review Board to discuss this claim.

H. S. Coulter
Metropolitan Engineer

By: Edward L Hardt
Edward L. Hardt
Assistant Metropolitan Engineer

ELH:pb

Encs

cc: A. E. Johnson
Walter Hart
R. E. Shotwell

RECEIVED
MAR 22 1972
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED

FOR FILING

7314

March 17, 1972

Mr. P. E. Simpson
Division Engineer
Federal Highway Administration
P. O. Box 399
Salem, Oregon 97308

67

Dear Mr. Simpson:

This will acknowledge your letter of March 6 concerning signing on the Stadium Freeway, the Fremont Bridge and its interchanges.

Representatives of our Traffic Engineering Section will be available to discuss this with representatives of your office at 1:30 P.M. on March 28.

Please advise if this time is not satisfactory.

Very truly yours,

George M. Baldwin
Administrator of Highways

By

R. L. Schroeder
Assistant State Highway Engineer

VPJ:sv jf

bc: Tom Edwards
F. B. Klaboe
L. E. George

Form FHWA-121 (1
UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

TO : Mr. George M. Baldwin, Administrator of Highways
Salem, Oregon

DATE: March 6, 1972

In reply refer to: 10-35-DA

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon Projects I-405-8(17)303 Fremont Superstructure
I-405-8(20)303 West Fremont Interchange
I-405-8(22-24)304 East Fremont Interchange
Stadium Freeway Signing

Several signs on the subject projects are substandard regarding the location of route shields and cardinal direction in accordance with the provisions of the Manual on Uniform Traffic Control Devices. These deficiencies existed under the old manual as well as under the current issue. The signs containing deficient route shield placement are as follows:

West Fremont
    Signs No. 8, 9, 10, 11, 12, 13, 16 & 17
East Fremont (Unit "A")
    Signs No. 16, 17, 31 & 32
East Fremont (Unit "C")
    Signs No. 2, 4 & 5
Fremont Superstructure
    Signs No. 1, 2, 4 & 5

Initially some of these signs did not contain a route shield and our memorandum to Mr. Cooper dated February 20, 1969, documented the Federal Highway position in that regard. The reply dated March 5, 1969, indicated that route shields would be added and stated the reasoning used in the initial design. The route shields were then added to the bottom of the signs below the legend with the evident intent to avoid increasing the height of the signs. The results contain significant deficiencies.

We would like to discuss with your engineers at an early date these revisions which can be made in the signing on these projects to conform more appropriately with the UMTCD and other signing in the area. Please advise of a convenient meeting time.

3-10-72

RECEIVED

MAR 13 1972

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

NOTED
R. L. SCHROEDER

TRAFFIC ENGINEERING

RECEIVED
- 1972

FOR FILING

UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

72-1-1

TO : Mr. George M. Baldwin, Administrator of Highways
Salem, Oregon

DATE: February 24, 1972

In reply refer to: 10-35-DA
930.22

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Discrimination Complaint by Roy L. Hankins
Oregon Project I-405-8(20)303 & I-405-8(28)
Mercer Steel Company, Inc.

Const. to Bridge by 3-3-72

From the information submitted with Mr. Glenn's February 14, 1972 letter the complainant's situation has been resolved and no further action is considered necessary.

3-1-72
REFERRED TO
Johnson
BY DEPUTY STATE HIGHWAY ENGINEER

NOTED
A. E. JOHNSON

RECEIVED
FEB 29 1972
OFFICE OF
STATE HIGHWAY ENGINEER

NOTED
TOM EDWARDS

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

RECEIVED
FEB 14 1972
FORM E-30 (12-67)
FOR FILING

I-405-4 (101)
7214

Br. Files

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon
February 4, 1972

SUBJECT: West Fremont Interchange
Contract No. 7214

To: Mr. E. L. Hardt
Assit. Metro Engineer
OFFICE

METROPOLITAN ENGINEER
RECEIVED
FEB 8 - 1972
☐ ME ☐ AME ☒ AME ☒ MOE ☐ MDE ☐ MTE

Enclosed for your information are copies of two letters from Industrial Painting and Sandblasting and the transmittal from the contractor. You will note the painter gives an estimated cost of $11,000.00 additional for working around the light poles if they are erected. At this time the poles will not be erected until after the painting

J. D. Howard
John D. Howard
Res. Br. Engr.

JDH:ads

CM [illegible]

cc: file

REFERRED TO
A E Johnson with Attch.
Date: 2-8-72 By: HARDT
For: Your information
Due Date:

RECEIVED
FEB 9 1972
OFFICE OF
STATE HIGHWAY ENGINEER

NOTED
A. E. JOHNSON

ANDERSEN-
HANNAN
A JOINT VENTURE
BOX 13367
PORTLAND OREGON 97213

February 3, 1972

Oregon State Hwy. Dept.
Sixteenth & Savier Sts.
Portland, Oregon 97209

Re: West Fremont Interchange
Contract No. 7214

ATTENTION: John Howard

Dear Sir:

Enclosed please find two letters from Industrial Painting & Sandblasting Co.; one stating their estimated cost to complete remaining corrective work and the second written to notify of additional monies that would be required to work around and protect light poles and fixtures.

Very truly yours,

ANDERSEN-HANNAN

W. Haapala
General Supt.

WH:lw
Enc.

Industrial Painting and Sandblasting Co.

BRIDGES - BUILDINGS SHIP - STACKS TANKS - TOWERS

January 25, 1972

Andersen-Hannan Co.
1626 N.W. 16th Ave.
Portland, Oregon

REF: West Fremont Bridge Approaches

Gentlemen:

I learned today that the electrical contractor is preparing to set in place the light standards on the steel spans of subject approaches. I, respectfully, refer you to my letter of December 9, 1971, wherein I outlined some of the reasons why this would be extremly detrimental to our painting operation. I will add to the afore mentioned reasons that there are parts of two spans, if poles were set, that we could not employ our Snooper. Where two lines join to form a elongated V it is necessary to boom over the rail where the lines are farther apart and then drift back. An obstruction on the rail would prevent this movement. Many of the poles would have to be draped to prevent damage from paint fallout. This also applies to much of the aluminum rail and light fictures attached to the underside of decks.

We estimate that we would require an additional $11,000.00 to work around and protect light poles and fictures.

Sincerely,

INDUSTRIAL PAINTING & SANDBLASTING CO.

John R. Kreiter

John R. Kreiter

JRK:jc

Industrial Painting and Sandblasting Co.
BRIDGES - BUILDINGS SHIP - STACKS TANKS - TOWERS

January 25, 1972

Andersen-Hannan Co.
1626 16th N.E. Ave.
Portland, Oregon 97213

REF: West Fremont Approaches

Gentlemen:

After reviewing the records of the State's Mill thickness readings, and considering all other factors in connection with corrective work on structural steel it is our estimate that it will cost approximately $41,000.00 to complete the remaining corrective work on Zinc coated surfaces.

This estimate does not include the cost of working around light standards or fictures or the cost of damage to vehicles or other property because of sand or paint fallout.

Sincerely,

INDUSTRIAL PAINTING & SANDBLASTING CO.

John R Kreiter

John R. Kreiter

JRK:jc

February 4, 1972

Mr. H. A. Andersen
Andersen-Hannan
3427 N. E. Halsey Street
Portland, OR 97213

Dear Mr. Andersen:

Re: West Fremont Interchange
Contract No. 7214

Reference is made to your December 20 letter which I referred to Al Johnson to look into and go over with you. He advises me that many of the items covered in your letter have now either been resolved or are in the process of being resolved. I offer the following on some of the items:

It would appear logical to delay the installation of the electrical poles until after the painting has been completed. You have stated that these delays will be caused by problems in finish vinyl painting and you feel that any additional costs entailed in a late installation of light poles should be borne by the State. If the delayed installation of light poles involves legitimate additional costs such as increased labor costs, and if these delays are the fault of the State, we would recommend to the Highway Commission that we reimburse you for these additional costs.

On your various items regarding time extension, Al has advised me that he has furnished you with information on time already granted and that our Metro office is working with you to attempt to resolve any time extension which are eligible for consideration at this time. This should include any plan changes which would require time extension. We are willing to consider any of these reasons now in order to avoid any penalty assessments in the future.

Very truly yours,

George M. Baldwin
Administrator of Highways

By

Tom Edwards
State Highway Engineer

cc F. B. Klaboe
A. E. Johnson
Walter J. Hart
Ed Hardt

ANDERSEN-
HANNAN
A JOINT VENTURE

BOX 13367 PORTLAND, OREGON 97213 • PHONES: 235-8661 / 777-1401

20 December 1971

A-H Job #G-001

Oregon State Highway Department
Highway Building
Salem, Oregon 97310

Attention: Mr. Tom Edwards

Reference: West Fremont Interchange
Contract #7214

Gentlemen:

I would like to confirm to you some of the matters I discussed last Wednesday, 15 December 1971.

In regards to the finish painting, due to the delays that we have experienced in the finish vinyl painting, it has now come to the point that we either put the electric light poles up and finish the entire job with the exception of the painting, which as you can readily see, will cause a hardship to the painter due to the fact that he would have to remove scaffolding and reset after encountering the poles, or, if we leave the electrical poles off, the electrician is demanding more money for installing them some time in the summer of 1972. We have been advised by the State Highway Engineers that they think it advisable to leave the light poles off, but nobody has agreed to pay for this inconvenience, and rest assured that Andersen-Hannan is not going to pay. I am awaiting your decision as to how the above matter should be handled.

In September of 1970, we started three weeks of experimentation at your request due to the fact that the finish vinyl coating had pin holes in it, bubbled, it ran, and it had to be put on in one coat in a 5 mil dry thickness. You are also aware of the fact that during the summer of 1971, we did a considerable amount of experimenting on different types of paints, one coat applications, two coat applications, one coat of a different primer, and on and on, mainly at our expense. However, the real problem was that we could not start pouring decks until this paint situation was resolved. So, consequently, we did not pour decks until the summer of 1971, which in turn delayed the entire job, finish painting, concrete decks, etc.. We have claims from our various subcontractors for their labor increases that have transpired in the

AEJ
analyze
ETK

NOTED
TOM EDWARDS

ANDERSEN-HANNAN
A JOINT VENTURE
BOX 13367
PORTLAND, OREGON 97213

meantime, plus it has forced us to pour concrete under inclement conditions which is now further delaying the job to the point that the finish painting will not be done until the spring and summer of 1972. We are working up the extra price on this delay, which in our opinion, is entirely the State of Oregon's problem.

While we are on this subject, as you know, we used cadmium plated bolts on the structural steel for which a coat of epoxy was required. At this time of the year, due to the temperature, this can not be accomplished. A sample of vinyl primer over the cadmium plated bolts was given to your technicians, and painted samples in the field have been available since September 1971. As of this date, we have no decision and the weather is deteriorating.

Rust stains developed as a result of the top flanges of the steel girders not being painted. I met with Al Johnson and discussed this situation with him. As you know, you have a letter from Canron in your files requesting that the top flanges be painted. The State of Oregon said not to paint them. We consequently had to get our painting subcontractor to clean the entire inside of the beams from rust stains, for which we have been billed. This amounts to approximately $50,000, excluding the exterior of the beams which at this time are not completed. It is my understanding that as of this time, the State has agreed to about $1,800 worth -- I can not figure out how the State could have possibly come up with a figure that ridiculous.

In your breakout for paying purposes, your estimate has approximately $327,000 in the structural steel lump sum bill for painting. At the time your engineers broke this out, we had no objection to it due to the fact that we felt the entire job would be done on schedule, but now that the painting is not going to be done until the summer of 1972, we would like to clear your records up to the effect that our subcontract with Industrial Painting for painting the structural steel amounts to $276,000. The reason I am bringing this item out is that, as we previously discussed, when the job was complete, with the exception of the painting and now possibly the electrical, our retention on the job will be released in full.

In May, 1971, I met with Mr. Al Johnson and John Howard in regard to the amount of sidewalks that would be required on this job over and above the original quantity, and also what to do with the off ramps that were going to be removed at the end of the existing stadium freeway. After submitting a price agreement in September 1971, and after its informal rejection, and then further discussions by John Howard, and as a result of receiving your decision only a short time ago, we are now not only fighting the muddy subsurface, but also the weather conditions that prevail at this time of year. As of 15 December 1971, you finally did agree to pay us for putting rock under the sidewalks. This is a typical example of the decisions coming out of the State. I would hope in the future that there is some method or means that these answers would be forthcoming more readily.

As you well know, we applied for 90-plus days of extension in regards to strikes, both from Canron, our steel supplier, and local strikes that we have had. Your people benevolently gave us 56 days, under what criteria you used, I am unable to figure.

In the piling claim I submitted to you, we did not have a time extension on that because the structural steel people were on strike in Canada at that time. But, by the same token, this is where you took 90-plus days and chopped them to 56 days. Now if this is the way you are going to operate, we will take the rest of our days and add them to the piling claim, and here again, time is money.

You gave us a work order to accomplish the modification of the expansion joints, as a result of the experience that you had on the West Linn Bridge. The thing that your work order did not accomplish was the fact that we experienced considerable delay in modifying these joints and coming back at a later time to set them. We feel at this time that this caused approximately 60 days delay, and, here again, time is money - for which we will also be reimbursed.

I wonder whether you are aware of the fact that there have been 96 plan changes, some of which require time extensions. As you are also aware, time is money, but evidently your people do not believe this. They think as long as the material and labor is paid for, and sometimes that is even difficult to obtain, that the time is free. We will be submitting more detailed information to you on these 96 changes, plus the additional amount of money that we feel is justifiably due us.

One other item that I would like to bring out is the concrete finish on the job. I have never in my 21 years in the construction business, seen an inspector on the building of a bridge with piers 100 feet in the air want the thing polished like glass, but I will say this, it is one of the best looking concrete jobs the State of Oregon has. However, in accomplishing this, it has cost Andersen-Hannan approximately $75,000 over and

ANDERSEN-
HANNAN
A JOINT VENTURE

BOX 13367
PORTLAND, OREGON 97213

above our estimate, which I think is ridiculous. This is one of the things that I have found in working for the State is that you are not consistent from job to job. I believe that the various items required of one firm should be required by all firms that work for the State, and I can give you examples of this to considerable length. However, I think it is something that you have to straighten out within your own ranks.

In conclusion, I am hereby making application for an indefinite extension of time until all these matters are straightened out, and that no more money is to be withheld from our contract due to delays.

Yours very truly,

ANDERSEN-HANNAN

H. A. Andersen

HAA:hr

Gen. Files

FORM E-30 (REV. 10-69)

7214

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
February 2, 1972

SUBJECT: West Fremont Interchange
Contract No. 7214

To: A. E. Johnson
Ass't. State Highway Engineer
State Highway Building
Salem

One of the subjects discussed at our recent meeting with H. A. Anderson was the question of setting light poles prior to completion of painting of steel girders. At that time it was mutually agreed that this sort of decision was up to the Contractor as we did not want to be in a position of telling him how to do his work.

Subsequent to that January 14, meeting, the Contractor has been attempting to get John Howard to direct them with regard to setting of light poles. Mr. Howard in consultation with the writer has refused to do so, and as a result the Contractor has written a letter, copy attached, documenting this fact.

The purpose of this letter is to bring you up-to-date on recent events regarding the question of timing on setting of light poles.

H. S. Coulter
Metropolitan Engineer

NOTED
A. E. JOHNSON

By:

Edward L. Hardt

Edward L. Hardt
Assistant Metropolitan Engineer

2-3-72
Contractor advised today that light poles will not be placed until painting completed.

ELH:pb

cc: John Howard

RECEIVED
FEB 2
OFFICE OF
STATE HIGHWAY ENGINEER

SP*52475-734

25 January 1972

A-H Job #G-001

Oregon State Highway Department
Metropolitan Division
5821 N.E. Glisan
Portland, Oregon 97213

Attention: Mr. John Howard

Reference: West Fremont Interchange
Contract #7214

Dear Sirs:

We have requested from you an instruction whether to proceed with the installation of the electric light poles and signing on the contract prior to the installation of the final top coat of paint on the structural steel.

We confirm yesterday in our conversation wherein you stated that it was not your policy to tell us how to do the job. Therefore, we are proceeding with light pole and signing prior to painting the structural steel in order to complete the contract as far as possible within the limitations of the contract period.

Yours very truly,

ANDERSEN-HANNAN

R. S. Everett

RSE:hr

FORM E-20 (REV. 10-69)

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
January 19, 197~~1~~2

SUBJECT: West Fremont Interchange
Contract No. 7214
Contractor's Retained Money

To: A. E. Johnson
Assistant State Highway Engineer
State Highway Building
Salem

When you were in Portland last Friday we discussed the possibility of reducing the retained money on the Contractor's estimate for the subject project. Attached you will find a copy of a letter from John Howard which transmits a listing of the work remaining to be done on the project as of January 5, 1972. This material is forwarded to you for your use in determining whether a reduction of the retained amount based on the 1970 Standard Specifications can be made.

H. S. Coulter
Metropolitan Engineer

By:

Edward L. Hardt

Edward L. Hardt
Assistant Metropolitan Engineer

Price Agreement made to provide for change AEJ

ELH:pb

Encs

cc: Walt Hart
John Howard

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JAN 2? 1972
OFFICE OF
STATE HIGHWAY ENGINEER

NOTED
A. E. JOHNSON

FORM E-30 (12-67)

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
January 17, 1972

SUBJECT: West Fremont Interchange
Contract No. 7214
Stadium Fwy Project

To: Mr. Edward L. Hardt

Ass't Metropolitan Engineer

OFFICE

As of the January 5, 1972, monthly estimate, this project shows approximately 98% of the work completed. We have discussed the possibility of reducing the contractor's retainage to 200% of the work remaining as per the 1970 Standard Specification. Attached is a list of bid items with the dollar value as of January 5th of the work remaining. At this time 5% of the contract items, or $944,664.45 is being witheld. By our interpretation under the new specification the retainage would be 200% of $278,163.82, or $556,327.64, reducing the present amount $438,336.81.

Will you please check and find out if the change to the new specification is possible?

J. D. Howard
JOHN D. HOWARD
Resident Bridge Engineer

cc: file
JDH:dfh
attachment

METROPOLITAN ENGINEER
RECEIVED
JAN 18 1972
☐ ME ☐ AME ☐ AME ☒ MOE ☐ MDE ☒ MTE

January 17, 1972 Mr. Edward L. Hardt Attachment #1

WEST FREMONT INTERCHANGE - Contract Number 7214

Bid Items Remaining for Completion as of the
January 5, 1972, Monthly Estimate

Item no.	Item Name	Dollar Amount To Complete	
1	Clearing and Grubbing	$ 3,250.00	— clean up site
2	Area Grading Work	2,100.00	— Shaping up under structure [illegible]
4	Finish Roadbed & Slopes	264.00	— Slopes to end
5	Trench Excavation	42.00	
9	Pavement Replacement	1,000.00	— Sewer trench
11	Plant-Mix Stone Base	3,204.50	— 15th St.
16	Class B Asphalt Concrete	2,422.50	— 16th one lift
20	Concrete Median Barrier	200.00	
34	Concrete Inlets Type P	150.00	
35	Concrete Curbs	3,530.40	—
37	Concrete Walks & Surfacings	2,867.36	—
46	Temp. Protection & Dir. Traf.	2,600.00	
61	Class "A" Concrete	51,280.00	— Surface -
63	Reinforcement	11,420.00	—
65	Structural Steel	104,831.15	— Painting ———
66	Gore Point Protection	125.00	done
67	Metal Parapet Railing	28,386.45	—
72	Structure Illumination	29,944.89	
74	Sign Bridge Structures	9,978.97	
75	Structure Mounts	1,398.00	
76	Cantilever Sign Structures	4,692.80	
77	Single Sign Supports	467.00	
79	Sign Illumination Equip	5,293.00	
81	Type "A" Signs in Place	4,266.00	
82	Type "C""D""K" Signs	945.00	
83	Type "M" Signs in place	504.00	
	Repair City Streets	3,000.00	-- Damage to city streets
	Total	$278,163.82	

Gen. File

1859

OREGON STATE
HIGHWAY DIVISION
METROPOLITAN SECTION
5821 N. E. Glisan Portland, Oregon 97213 Phone 229-6971

January 17, 1972

2

Anderson-Hannan
1626 NW 16th
Portland, Oregon 97209

ATTENTION: Ralph Hannan

Re: West Fremont Interchange
Contract No. 7214

Gentlemen:

Our testing of Carbolene's vinyl primer 6C for coating of cadmium plated bolts has been completed and it is permissible to use this material in lieu of epoxy mastic for cadmium plated bolts' protection. This material should be applied in one coat with no wash primer in accordance with the same job specifications with respect to temperature and humidity as those governing the application of vinyl paint. This is to be considered to be a short-term approval as it is our desire that you go back to the epoxy protection as soon as weather conditions will permit. Incidentally vinyl paint being supplied by the Carbolene Company should be applied in accordance with the job specifications for vinyl paint also.

NOTED
A. E. JOHNSON

H. S. Coulter
Metropolitan Engineer

By:

Edward L. Hardt

Edward L. Hardt
Assistant Metropolitan Engineer

ELH:pb

cc: A. E. Johnson
Walter Hart
John Jenkins
John Howard

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JAN 18 1972
OFFICE OF
STATE HIGHWAY ENGINEER

cy [illegible] 1-10-72

STATE COPY C-1C

APPROVED EFFECTIVE ON 12-3 PSJ1
Contingent upon modification of project agreement if additional funds are required
BY
Dist. Engineer
TITLE
DATE 1-24-73
FEDERAL HIGHWAY ADMINISTRATION

Form

7214

OREGON STATE HIGHWAY DEPARTMENT

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

Project Name	" West Fremont Interchange	Date	January 72
Highway	Stadium Freeway	Contract No.	7214
County	Multnomah	Prefix	626-1011
Contractor	Andersen-Hannan	F. A. Project No.	I-405-8(20) 303
Address	1626 N.W. 16th Ave., Portland, Oregon 97209	Order No.	15

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done: Lay approximately 15 ft of 8 inch sewer from inlet at S.W. corner of 16th Ave and N.W. Quimby St. to City manhole in center of Quimby St.

1. Maximum equipment rate allowable as per AGC agreement.
2. Percentage allowed contractor is in accordance with executed contract for project.

Location by station numbers: Not appicable

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STATE HIGHWAY ENGINEER

To Const. 1-26-73

Estimate of quantities and cost:

Labor	$250.00
Equipment	$100.00
Materials	$ 50.00
Total	$400.00

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")

Inlet was connected to existing line as shown by plan. Poor alignment of pipe due to new location of inlet has resulted in plugging of pipe. To avoid this problem a new line should be laid to the existing manhole. The contractor has completed the drainage work on this job so does not feel he can do the work at the unit bid prices.

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization	$ 20,868,472.50
Present estimate of project cost, including $ 400.00 for work under this order	$ 20,340,833.12
Expected under-run ~~overrun~~ amount	$ 527,639.78
Expected under-run ~~over-run~~ per cent	2.53

Space to right of this line is for use of Salem Office

NOTED

Submitted by: Resident Engineer

Approval Recommended: Edward Division Engineer

Approval Recommended: L. W. E Construction Engineer / Bridge Engineer

Approved: R. D. Assistant State Highway Engineer / Office Engineer

SP*23577-734

RECEIVED
JAN 5 - 1972

7214

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
December 31, 1971

SUBJECT:

To:

Mr. Robert Schroeder
Metropolitan Engineer
5821 NE Glisan Street
Portland, Oregon

West Fremont Interchange
Contract No. 7214
Rust Bond 6C

Dean Mandrell and I have again reviewed the application of the vinyl wash primer on the cad plated bolts prior to the application of the proposed Rust Bond 6C vinyl primer. We still feel that this will give superior adhesion of the Rust Bond 6C to the cad plated bolts and therefore feel that it should be required. Also, you will recall we recommended the wash primer to be used only on the outside of the box girders.

Mr Krieter mentions that Dave Muth does not recommend the use of the vinyl wash primer. However, Mr. Muth does not recommend against the use of the vinyl wash primer. In fact, as far as I am aware, he is mute on the subject.

Mr. Hannan states that there is "a conflict between the specifications and the directive from the Materials Department." Nowhere in the specifications for this project is any mention made of cadmium plated bolts, so I can see no conflict. He also states that if they are required to use the vinyl wash primer, they are bound with weather restrictions that render this route unworkable during this winter season. I cannot follow his reasoning in that the vinyl wash primer can be applied in less favorable painting weather than can the Rust Bond 6C. SSPC states that vinyl wash primer can be applied over damp surfaces, vinyl primer cannot.

Actually, there has been very little weather in the last month that was suitable for the application of any paint. The high humidity and the proximity of the dew point to the ambient temperature will prohibit paint application most of the time from now to March.

If you have any further questions or thoughts on this, I would be happy

NOTED
A. E. JOHNSON

to get together and discuss them.

JOHN C. JENKINS
Engineer of Materials & Research

by

J. E. Chidsey
Structural Quality Control Engineer

cc: A. E. Johnson ✓
Ivan Merchant
John Howard
R. E. Shotwell

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JAN 3 1972
OFFICE OF
STATE HIGHWAY ENGINEER

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FORM E-30 (REV. 10-60)
FOR FILING

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7214

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
December 29, 1971

SUBJECT: East & West Fremont Interchanges
Rust Bond 6C Primer for Cad Bolts

To: John Jenkins
Materials Engineer
State Highway Building
Salem

ATTENTION: James Chidsey

NOTED
A. E. JOHNSON

Attached you will find a letter from Ralph Hannan, Project Manager for Anderson-Hannan & Company, together with a letter from Industrial Painting and Sandblasting Company, the painting sub on the West Fremont project. This correspondence deals with my approval of the use of Rust Bond 6C vinyl primer with the provision that a vinyl wash be used with this material.

Please note that this correspondence mentions that the Carbolene representative, Dave Muth, does not recommend the use of the vinyl wash for the vinyl primer. The reason that I requested that it be used was on your advice.

Would you please let me know whether or not the vinyl wash material is required to be used under the vinyl primer for cad bolt coating.

R. L. Schroeder
Metropolitan Engineer

By:

Edward L. Hardt

Edward L. Hardt
Assistant Metropolitan Engineer

ELH:pb

Encs

cc: John Howard
Robert Shotwell w/attach.
Ivan Merchant "
~~A.~~ E. Johnson "

RECEIVED
DEC 30 1971
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED [illegible]

12-28-71 Gen. Files

7214

28 December 1971

A-H Job #G-001

Oregon State Highway Department
Highway Building
Salem, Oregon 97310

Attention: Mr. Ed Hardt, Metropolitan Engineer

Reference: West Fremont Interchange
Contract No. 7214

Dear Sirs:

Please forgive the delay in answering your letter of 20 December 1971, but we require a little time to refine our research on Rustbond 6-C primer. Enclosed you will find a copy of a letter from our subcontractor, Industrial Painting and Sandblasting. Please be mindful of a conflict between the specifications and the directive from the Materials Department. The manufacturer does not require a vinyl wash primer in this application, and our field test did not include this product. Again, be mindful of the fact that if we are definitely required to use this vinyl wash primer, as outlined in your letter, we are bound with weather restrictions that render this route unworkable during this winter season. We are now, as stated in the enclosed letter, unable to paint the cad plated bolt patterns.

Very truly yours,

ANDERSEN-HANNAN

Ralph Hannan Jr.
Project Manager

CM [illegible]

RECEIVED
DEC 29 1971
OFFICE OF
STATE HIGHWAY ENGINEER

RH:hr

cc: Mr. Al Johnson
Mr. John Howard

4940 S.E. JOHNSON CREEK BLVD. PHONE 774-1148 PORTLAND, OREGON 97206

Industrial Painting and Sandblasting Co.

BRIDGES - BUILDINGS SHIP - STACKS TANKS - TOWERS

December 28, 1971

Andersen-Hannan
1626 N.W. 16th Ave.
Portland, Oregon 97209

REF: West Fremont Interchange
Contract No. 7214

Gentlemen:

I am in receipt of a copy of a letter from the Oregon State Highway Division dated December 20, 1971 and transmitted by your office in regard to Carboline Rust Bond Primer 6-C.

It seems to me that we are back where we started in trying to solve the winter time priming of cad bolts. In order to hold the manufacturer of a product responsible for the way it bonds or wears it must be applied according to their recommendation. Mr. Dave Muth has never recommended to us a vinyl wash primer prior to the application of the Rust Bond 6-C.

I don't know how the material was tested in the Salem laboratory, but I do know that test samples that were made on the structure, by us, of the Rust Bond 6-C Primer were without vinyl wash primer. It looks good and it has a good bond.

We are aware of our request for the use of the Epoxy coating for cad bolts. We feel it is a good material and it was recommended by Enjay Chemical Co., the manufacturer, but as we all know it is not a product to be applied in the winter time temperatures.

Sincerely,

INDUSTRIAL PAINTING & SANDBLASTING CO.

John R Kreiter

John R. Kreiter

JRK:jc

FORM E-30 (REV 10-69)

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
December 22, 1971

SUBJECT: West Fremont Interchange
Contract No. 7214
East Fremont Interchange
Contract No.'s 7310 & 7311
Epoxy Paint for Cadmium Plated Bolts

To: A. E. Johnson
Ass't. State Highway Engineer
State Highway Building
Salem

You advised me today (12-21) of criticism regarding the lack of planning for solving the winter time--cadmium plated bolts--epoxy paint problem. I feel that this criticism is unjust for the following reasons.

Epoxy paint was not called for by our project specifications. It appeared on the jobs as a result of a package change requested by the Contractors in order to avoid the problems associated with field sandblasting of high strength bolts. Problems connected with this epoxy paint then, are properly the responsibility of the Contractor.

When it became apparent late last summer that the Contractors would not complete structural steel painting this year, it also became apparent to the writer that applying epoxy paint in the winter time would be a problem. Not having the technical background to be able to make an independent judgment regarding the relative merits of brands or types of paints, I look to our Materials Laboratory for this type of advice. During the last summer I had numerous conversations with our Lab people regarding the epoxy paint problem in an attempt to find an acceptable solution. I happened to have a diary entry on September 13, indicating one of these conversations where two suggestions by the Contractor, namely vinyl primer and organic zinc, were discussed. The Lab people felt that neither of these were the equivalent of the three mils of inorganic zinc originally specified. I inquired as to whether there was any other known paint which could take the place of the epoxy and the answer was in the negative. At that point, I advised both resident engineers to tell their contractors that if they wished to discuss these alternates or any others with us that I would be happy to arrange a meeting with our Laboratory people. No response was received from that invitation.

On November 19, I put out a memo to the files with copies to your office, the Bridge office and to the Laboratory setting forth the latest status on the cad bolt problem mentioning the alternates of heating the members to be painted so that the epoxy paint could be used in the winter and of falling back to the original intent of the specs whereby the bolts would be sandblasted and painted with inorganic zinc. The purpose of this memo was to alert everyone that the problem still existed hoping that perhaps someone could come up with an answer that I had overlooked. None came.

NOTED
A. E. JOHNSON

SP*52475-734

I am now advised by the Laboratory that they feel the vinyl primer will give us a job that we can live with and so we are proceeding on that basis.

I have always felt that the Contractors should take the initiative in solving the epoxy paint problem rather than this office, although we have always attempted to cooperate to the fullest extent with anybody who showed an interest in solving the problem. With the limited time that I have available to devote to this problem, I don't know what more I could have done towards solving it.

R. L. Schroeder
Metropolitan Engineer

By:

Edward L Hardt

Edward L. Hardt
Assistant Metropolitan Engineer

ELH:pb

cc: Tom Edwards
Ivan Merchant
John Jenkins
John Howard
Robert Shotwell

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DEC 23 1971
OFFICE OF
STATE HIGHWAY ENGINEER

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1971
FOR FILING

c building materials
Division of Glacier Sand & Gravel Company
3510 S. W. BOND AVENUE PORTLAND, OREGON 97201 226-3221

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7214

December 22, 1971

General Insurance Company of America
Portland Service Office
1500 S. W. 1st Avenue
Portland, Oregon 97201

Attention: Mr. Thomas E. Wernette
Portland C.R.O./Surety Claims

RE: Oregon State Highway Commission
Contract No. 7214
Freemond Bridge Interchange
Portland, Oregon

Dear Mr. Wernette:

In your letter of July 23, 1971, you formally acknowledged notice of our claim against C. J. Montag for materials supplied to them on the above referred to job. Since that time, I have had several telephone conversations with you in regard to your Bond 590979 covering this liability as surety, but as yet we have not received payment and approximately six months' time has elapsed.

We would appreciate hearing from you as to when we can expect payment as a long period of time has already elapsed.

Very truly yours,

PACIFIC BUILDING MATERIALS
Division of Glacier Sand & Gravel Company

P. F. Jones
P. F. Jones
N. W. Division Credit Manager

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DEC 2 1971
OREGON
STATE HIGHWAY COMMISSION

NOTED
FLOYD QUERY

PFJ:sm
CERTIFIED MAIL

cc: ✓Oregon State Highway Div.
Highway Building
Salem, Oregon 97310
Attn: Mr. Floyd Query

H. A. Anderson
3427 N. E. Halsey
Portland, Oregon
Attn: Bob Everett

Hannan Bros.
8416 Otty Rd.
Portland, Or.

Dooly & Co.
310 S. W. 4th
Portland, Or.

NOTED
C. W. HEAD

Gen. Files

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OREGON STATE
HIGHWAY DIVISION
METROPOLITAN SECTION
5821 N. E. Glisan Portland, Oregon 97213 Phone 229-6971

December 20, 1971

NOTED
A. E. JOHNSON

Anderson-Hannan
1626 N. W. 16th
Portland, Oregon 97209

ATTENTION: Ralph Hannan

Re: West Fremont Interchange
Contract No. 7214

Gentlemen:

I appreciate your prompt response to investigating the epoxy paint handled by the Miller Paint Company as evidenced by your letter to me of December 10. I am sorry to learn that this material will not solve the winter-time epoxy paint problem.

Our laboratory people have inspected your field test of Rust Bond Primer 6C as well as making laboratory tests of this material. Based on the field and lab tests, you have our approval to substitute this material for the intermediate coating of the cadmium plated bolts. This approval is given with the understanding that in the event the Laboratory's tests which are not complete at this time are to be unfavorable, this approval might be rescinded. These tests should be completed in the next week or so. In order to assure proper adhesion to the cadmium surface, it will be necessary to use vinyl wash primer in conjunction with the vinyl primer. Both of these materials should be applied according to the manufacturer's recommendations. Since the cadmium plated bolts and epoxy coating were a result of a request made by you in order to avoid field sandblasting of black bolts, the approval of the vinyl primer system in lieu of epoxy coating is with the understanding that there will be no additional cost to the State for the use of this material.

Your letter also talks about the question of retained percentage on the project as related to setting of light poles. I believe Mr. Howard's letter to you dated December 9, expressed our belief that it would be prudent not to set the light poles until after the painting work is done in order to avoid conflicts with the painting work as well as paint damage to these poles. We are hopeful of obtaining a modification in the specification relating to the retained amount so that when 97-1/2% of the work is completed the retained amount could be reduced to an amount equal to 200% of the value of the remaining work. If we are successful in this, your retained amount will be drastically reduced when the 97-1/2% point is reached. We expect to have an answer on this question in the next week or so.

Edward L. Hardt

Edward L. Hardt
Assistant Metropolitan Engineer

RECEIVED
DEC 2? 1971
OFFICE OF
STATE HIGHWAY ENGINEER

ELH:pb
cc: A. E. Johnson w/attach.
Ivan Merchant "
John Jenkins "
John Howard
R. E. Shotwell w/attach.

METROPOLITAN ENGINEER
RECEIVED
DEC 10 1971
☐ ME ☐ AME ☐ AME ☐ MOE ☐ MOE ☐ MTE

ANDERSEN-
HANNAN
A JOINT VENTURE
BOX 15367
PORTLAND, OREGON 97213

December 10, 1971

Oregon State Highway Div.
5821 N.E. Glisan Ave.
Metropolitan Section
Portland, Oregon

Re: West Fremont Interchange
Contract No. 7214

ATTENTION: Ed Hardt, Metro. Engr.

Dear Sir:

In reply to your letter of December 3, 1971, we have conferred with Mr. John Buckinger regarding the "epoxy primer" you refer to. I am enclosing a letter from our painting contractor, Industrial Painting & Sandblasting, explaining the results of our query. As you will note, his appraisal is very disappointing.

Please be advised that we have been concerned with this problem for many months. We have conducted field tests with a Carboline product, Rustbond Primer 6C, which has stood up favorably in the eyes of the field personnel since September 9, 1971. To our knowledge the materials department has made no inspection of our field test. Enclosed is the specification sheet for Carboline Rustbond Primer 6C. Our paint supplier, Carboline, requested us to supply him cadmium bolt mockups to furnish to the State Materials Lab for testing various other products. These tests have been running for considerable time and as yet we have had no results.

We would appreciate your inquiry into these test procedures. (As our schedule now stands, with the currently approved paint products, we should complete the painting on this project early in October of 1972.) This completion could be hastened by delaying our electrician in setting the light pole standards, and would allow him to complete in early August, 1972, but could possibly add to the cost of the light pole installation. It is my opinion that the latter route would be more economical way to go. We cannot make this determination without a commitment from the OSHD regarding retainage, penalty and adjusted cost. I would be happy to arrange a meeting of all contractors involved to discuss this.

Referring to your third paragraph on long term testing procedures, our field test which has already been conducted and has been ignored, may solve the whole problem. I therefore, respectfully request the use of Carboline Rustbond Primer 6C to prime the cadmium plated bolt patterns on this project at no additional cost to the Oregon State Highway Department.

Please expedite your directives in this matter.

Very truly yours,

Ralph Hannan

Ralph Hannan - ANDERSEN-HANNAN
Project Manager

RH:lw
cc: Industrial Painting & Sandblasting; Canron Limited; Jaggar-Sroufe;
John Howard

4910 S.E. JOHNSON CREEK BLVD. PHONE 774-1143 PORTLAND, OREGON 97206

Industrial Painting and Sandblasting Co.

BRIDGES - BUILDINGS SHIP - STACKS TANKS - TOWERS

December 8, 1971

Andersen-Hannan
1626 N.W. 16th Ave.
Portland, Oregon 97209

ATTN: Ralph Hannan

REF: West Fremont Interchange
Contract No. 7214
Painting of Cadmium plated bolts

Dear Sir:

I am in receipt of a letter dated December 3, 1971 signed by Edward L. Hardt and transmitted by you. It refers to an epoxy primer, manufactured by the CIBA Company and sold by Miller Paint Co., that could be applied in temperatures down to a minimum of 40 degrees F.

I was very happy to hear about this material, thinking that with it we could proceed with our Contract work. However, in talking with Mr. John Buckinger, the Chemist at Millwr Paint Co., I find that while the primer is very good for our need it can not be applied successfully in the winter months.

Mr. Buckinger explained that in areas where the temperatures can not be controlled the primer should not be applied unless we could foresee at least 6 or 7 consecutive days with temperatures in excess of 40 degrees F to allow the material to cure out. He adds that to apply the primer on a good day and have the temperature fall below freezing that night or any time before it completely cures the result would be a total loss of material, requiring removal of same. I am sorry the report could not be more favorable.

Sincerely,

John R. Kreiter

John R. Kreiter

JRK:jc

carboline
PRODUCT DATA SHEET

RUSTBOND PRIMER 6C

SELECTION DATA

GENERIC TYPE: Modified vinyl. Single package.

GENERAL PROPERTIES: A universal corrosion resistant maintenance primer. Rustbond Primer 6C is fast drying, easy to apply and has good weathering properties. Has rust inhibiting pigments which give protection against creep or sub-film corrosion. Available in red or gray. For jobs where topcoats are brushed, or where only one topcoat is used, gray is recommended because it is easier to hide.

RECOMMENDED USES: Rustbond Primer 6C is used as a prime coat on blasted, or power tool cleaned rusty steel, galvanized steel, most alloys, pickled steel and concrete. Can be topcoated with most synthetic coatings, asphalt mastics and oil-based paints. Uses include structural steel, equipment exteriors, railings, steel stairs, decking, fencing, fabricated steel, tank structures and tank exteriors.

NOT RECOMMENDED FOR: Immersion service.

CHEMICAL RESISTANCE GUIDE:

Exposure	Splash & Spillage	Fumes
Acids	Good	Very Good
Alkalies	Good	Very Good
Salts	Good	Very Good
Solvents	Poor	Fair
Water	Very Good	Very Good

TEMPERATURE RESISTANCE:

Continuous	160° F
Non-continuous	180° F

FLEXIBILITY: Very Good

WEATHERING: Very Good

ABRASION RESISTANCE: Good

SURFACES: Steel, etched galvanizing, alloys, pickled steel, concrete, Carbo Zinc 11.

SUITABLE TOPCOATS: Vinyls, acrylics, bitumens, chlorinated rubbers, epoxy esters, oil-based coatings.

COMPATIBILITY WITH OTHER COATINGS: In addition to inorganic zinc, or bare steel, it can be used over most synthetics, such as vinyls, phenolics, alkyds and chlorinated rubbers. Can be used over most well-aged oil paints.

SPECIFICATION DATA

SOLIDS CONTENT:

By weight	41% ± 2%
By volume	25% ± 1%

THEORETICAL YIELD: 400 mil ft. per gallon.

FILM THICKNESS PER COAT: 2 mils.

THEORETICAL COVERAGE* PER GALLON: 200 sq. ft.

***NOTE:** Material losses during mixing and application will vary and must be taken into consideration when estimating job requirements.

SURFACE PREPARATION: For best results – commercial finish blast is recommended. Alternate cleaning methods are – power tool cleaning, or hand cleaning. Loose paints must be removed. The entire surface should be thoroughly cleaned. Inorganic zincs should be free of any soluble residue, or curing solution. Concrete must be clean and dry and should be roughened if smooth.

COLORS: Red, or Gray only.

APPLICATION DATA

METHOD OF APPLICATION: Conventional and airless spray, brush.

SPRAY GUNS:

Conventional	Fluid Tip	Air Cap
Binks #18 or #19	63B	63PB
DeVilbiss P-MBC or JGA	FX	704

Airless	
DeVilbiss, Binks or Graco	.013 orifice and 2000 psi

NUMBER OF COATS: One

DRYING TIME BEFORE TOPCOATING: 1 hour minimum @75° F.

SHELF LIFE: 12 months minimum.

THINNER USED: Polyclad Thinner, For hot or windy conditions, or for application over solvent sensitive paints, use Carboline Thinner #25, up to 1 quart per gallon.

171-Revised Replaces Issue of 970

FREMONT BRIDGE COMPLEX PROJECT INFORMATION

PROJECT	CONTRACT NO.	CONTRACTOR	DATE AWARDED	DATE COMPL.	LENGTH (LANE FT.)	QUANTITIES STRUCT. STEEL (LBS.)	QUANTITIES CONCRETE (CY)	QUANTITIES REINFORCE. (LBS.)	ENGINEERING CONSULTANT	EXPENDITURES CONTRACT AMOUNT	EXPENDITURES TOTAL* AMOUNT	EXPENDITURES AMOUNT FOR ENGINEER CONSULT.
✓ Fremont Bridge Pier Const.	7124	Peter Kiewit Sons' Co.	2-27-68	5-13-70	N/A	520,000	38,000	1,950,000	Parsons, Brinkerhoff, Quade & Douglas	3,370,072	4,188,200	714,000
✓ Fremont Bridge Superstructure	7276	Murphy-Pacific Enterprises	7-3-69	Est. 1973	17,300	17,450,000	3,910	1,010,000	"	21,833,293	24,054,902	Included in above
West Fremont Interchange	7214	Anderson-Hannan	4-29-69	Est. 1972	36,000	15,952,000	65,647	19,150,000	Howard, Needles, Tammen & Bergendoff	18,893,289	20,868,473	1,653,642
West Fremont Interchange (Unit 2)	7623	Drake-Willamette	8-26-71	Est. 1972	Included in above	126,200	11,270	3,885,300	"	3,270,487	3,715,410	Included in above
East Fremont Interchange, Unit "A"	7310	Drake-Willamette	9-11-69	Est. 1972	32,000	16,156,000	19,817	4,388,500	"	12,994,987	13,928,738	Included in above
East Fremont Interchange, Unit "B"	7311	Drake-Willamette	9-11-69	Est. 1972	Included in above	8,740,800	15,725	2,989,400	"	8,982,856	9,458,459	Included in above
East Fremont Interchange, Unit "C"	7312	Drake-Willamette	9-11-69	Est. 1972	Included in above	352,500	8,252	2,712,000	"	2,007,349	2,218,094	Included in above
TOTALS						59,297,500	162,621	36,085,200		71,352,333	78,432,276	2,367,642

✓ $415,858

✓ $3,925,761

✓ $991,320

$5,332,939

TOTAL COST FREMONT BRIDGE COMPLEX $80,799,918

5,332,939

$86,132,857

* Includes Additional Anticipated Items, Contingencies, and Construction Engineering

NOTED
TOM EDWARDS

RECEIVED
DEC 15 1971
FOR FILING

[illegible]
7214

December 14, 1971

State Accident Insurance Fund
Labor and Industries Building
Salem, Oregon 97310

Attention: B. Rastorfer, Credit Manager
Policyholder Services Division

Gentlemen:

This is in reply to your letter of December 9, 1971, concerning your corrected claim in the amount of $4,804.16 against William H. Deppenmeier, subcontractor to Andersen-Hannan on Contract No. 7214, West Fremont Interchange Section in Multnomah County.

Our records indicate that the claim was filed November 5, 1970, with the Secretary of State and assigned his file #4535.

This contract was approximately 97 percent complete as of December 10, 1971.

We have received no information in this office regarding the payment of your claim. You may wish to contact Dooly & Company, Oregon Ltd., Board of Trade Building, Portland, Oregon 97204, agent for the General Insurance Company of America, regarding the status of your claim.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

CWH:kl

saif

State Accident Insurance Fund
Labor & Industries Building
Salem, Oregon 97310
Phone 378-3400

DISTRICT OFFICES
SERVING YOU IN OREGON

ASTORIA
1402 Marine Drive, 97103
Phone: 325-7252

BAKER
2043 Main, 97814
Phone: 523-6342

BEAVERTON
12690 S.W. 1st, 97005
Phone: 644-3118

BEND
734 E. Greenwood, 97701
Phone: 382-0322

CORVALLIS
720 S.W. 4th, 97330
Phone: 754-1224

EUGENE
20 E. 13th, 97401
Phone: 686-7652

KLAMATH FALLS
3926 S. 6th, 97601
Phone: 882-4454

MEDFORD
140 N. Grape, 97501
Phone: 779-1441

MILWAUKIE
825 42nd St., 97222
Phone: 654-7741 ext. 295, 296

NORTH BEND
Pony Village Shopping
Center, 97459
Phone: 756-3118

PENDLETON
700 S.E. Emigrant, 97801
Phone: 276-6131 ext. 35

PORTLAND METROPOLITAN
1400 S.W. 5th, 97201
Phone: 229-5881

PORTLAND NORTHEAST
7337 N.E. Fremont, 97213
Phone: 229-6035

ROSEBURG
852 S.E. Stephens, 97470
Phone: 672-6541 ext. 246

SALEM
Labor and Industries
Building, 97310
Phone: 378-3411

December 9, 1971

Oregon State Highway Division
State Highway Building
Salem, Oregon

Attention: Mr. Floyd Query, Secretary

Gentlemen:

262926 - William H. Deppenmeier

Reference is made to the corrected claim in the amount of $4,804.16, which we filed on November 4, 1970, against the Bond taken from the General Insurance Company of America because of the failure of William H. Deppenmeier, a subcontractor under Andersen-Hannan, a joint venture, to pay contributions due under State Highway contract number 7214 for work on the West Fremont Interchange, Stadium Freeway, in Multnomah County.

We were contacted by Attorney Dennis V. Gilbert, who was representing Andersen-Hannan, re certification of payroll of Deppenmeier's employees on this contract. This was furnished, apparently, to his satisfaction since we have not heard from him for quite some time.

If known, we would like to know when we can expect to receive payment of our claim. Any help which you can give us will be very much appreciated.

Very truly yours,

B Rastorfer

B. Rastorfer, Credit Manager
Policyholder Services Division

BR:mm

RECEIVED
[illegible]
STATE HIGHWAY COMMISSION

NOTED
FLOYD QUERY

NOTED
C. W. HEAD

RECEIVED
DEC 14 1971

FORM E-33 (REV. 10-69)

FOR FILING

[illegible]
7214

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
December 10, 1971

To:

SUBJECT:

Mr. E. S. Hunter
Asst. State Highway Engineer

FHWA Rapid Test Method-2
RT-2 - Cement Acceptance
Procedure

The FHWA Rapid Testing Procedure, RT-2,- Cement Acceptance Procedure has been used in a modified form by the Materials Section for a number of years. Attached is a flow chart showing the documentation required to insure cement quality. This system has worked satisfactorily and in general follows the two example procedures contained in the FHWA Notice.

Our cement acceptance procedure is in conformance with Articles 701.01(c) and 106.08 of the standard specifications. In view of the increased efficiency of this procedure and the reduction in the amount of testing necessary in the laboratory, this procedure will continue to be used and study made to find ways to further increase the efficiency and accuracy of the method.

JOHN C. JENKINS
Engineer of Materials & Research

by

J E Chidsey
J. E. Chidsey
Structural Quality Control Engineer

encl.

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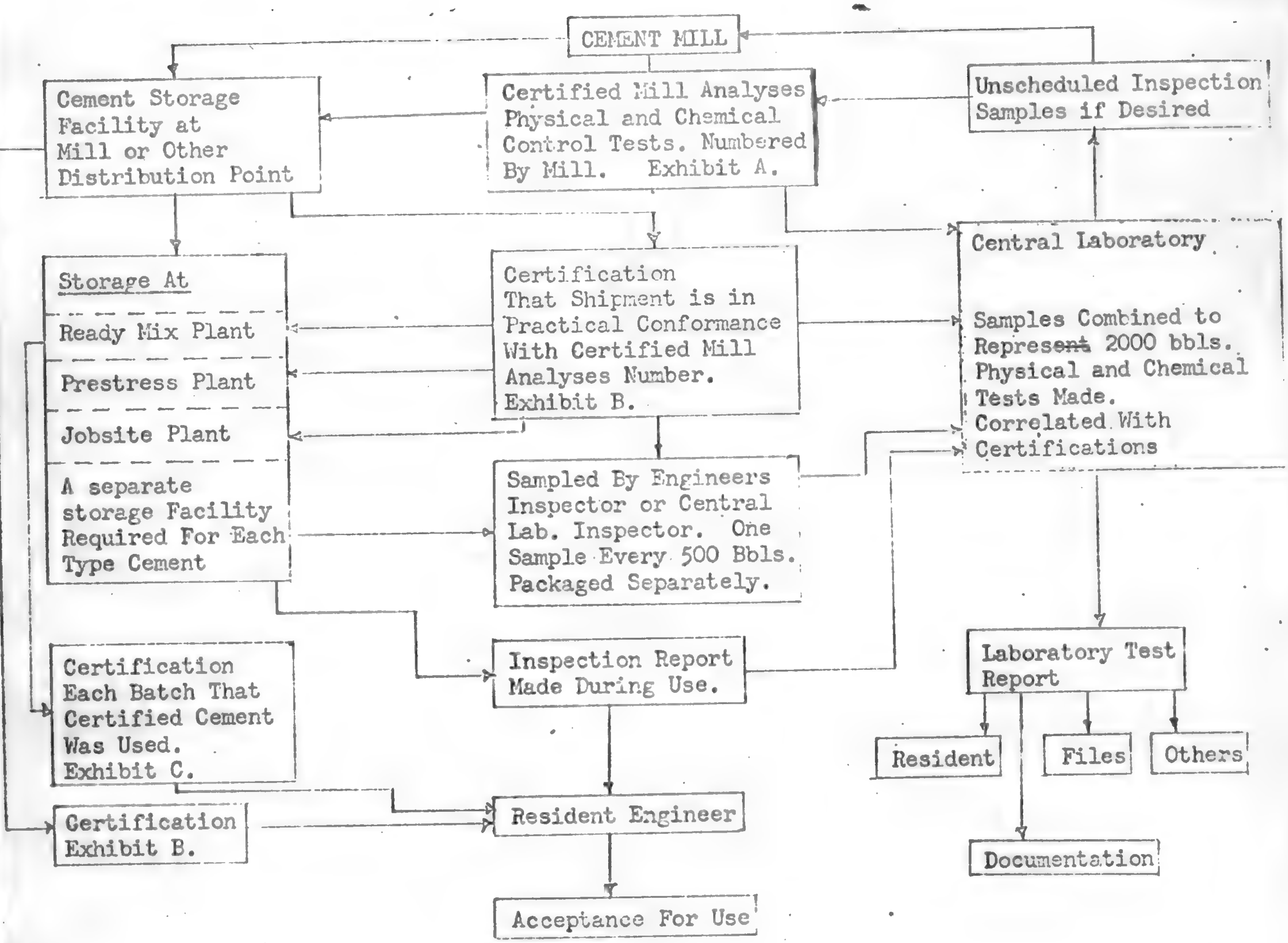
DEC 13 1971
OFFICE OF
STATE HIGHWAY ENGINEER

NOTED
E. S. HUNTER

SP*52475-734

CEMENT QUALITY DOCUMENTATION

FLOW CHART


CEMENT MILL
Cement Storage Facility at Mill or Other Distribution Point
Certified Mill Analyses Physical and Chemical Control Tests. Numbered By Mill. Exhibit A.
Unscheduled Inspection Samples if Desired
Storage At
Ready Mix Plant
Prestress Plant
Jobsite Plant
A separate storage Facility Required For Each Type Cement
Certification That Shipment is in Practical Conformance With Certified Mill Analyses Number. Exhibit B.
Central Laboratory
Samples Combined to ~~Represent~~ 2000 bbls. Physical and Chemical Tests Made. Correlated With Certifications
Sampled By Engineers Inspector or Central Lab. Inspector. One Sample Every 500 Bbls. Packaged Separately.
Inspection Report Made During Use.
Laboratory Test Report
Resident
Files
Others
Documentation
Certification Each Batch That Certified Cement Was Used. Exhibit C.
Certification Exhibit B.
Resident Engineer
Acceptance For Use

Materials Division April 1967

Salem

EXHIBIT A

OREGON PORTLAND CEMENT COMPANY

Route 1, Box C
Huntington, Oregon 97907

No. 345

Date: May 21, 1971

Quantity Representing: 5015 Bbls., Bins 3 and 8

Dates of Sampling: May 8-9, 1971

Type of Cement: Type I Low Alkali

CHEMICAL COMPOSITION

SiO_2	22.46
Al_2O_3	4.36
Fe_2O_3	2.70
CaO	65.07
MgO	1.25
SO_3	2.13
Loss on Ignition	1.67
Insoluble Residue	0.43
C_3S	55.0
C_2S	22.9
C_3A	7.0
C_4AF	8.2
As Na_2O	0.40

PHYSICAL TESTS

Specific Surface: 3945

Setting time: 2:40 -- 4:30

Soundness Autoclave: + 0.009

Air Content -- 9.0%

COMPRESSION STRENGTH

1 Day	---
3 Day	2735
7 Day	3895
28 Day	---

Note: This supersedes #345 dated 5-17-71.

I hereby certify that the above are true test values obtained from a composite of samples taken during manufacture on the dates indicated in full accordance with ASTM and AASHO procedure.

M. J. O'Dell
Chief Chemist

RECEIVED
MAY 26 1971
MATERIALS DIVISION
OFFICE

EXHIBIT B

OREGON PORTLAND CEMENT COMPANY

Customer's Name Ross Island S.&G.

Date DEC 6 9 15 AM '71

Ticket No. 11764

LAKE OSWEGO **PLANT**

This is to certify that the cement shipped

to Alpine (destination)

for Anderson + Hannon (project)

by own truck (car no. or truck line)

as listed below

QUANTITY	**TYPE**	**CONTRACT NO.**
121.96-81	1	7214

meets all specification requirements pertinent to the indicated project and is in practical conformance with our Typical Mill Analysis No. 1509 **which was made on a composite of samples taken and tested in accordance with ASTM requirements during manufacture.**

Mill Analysis on file with State Highway Department.

W. M. Sweet

Title Chief Chemist

STATE COPY

Gen. File Copy

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DEC 7 - 1971
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OREGON STATE
HIGHWAY DIVISION

Metropolitan Section 5821 N. E. Glisan Portland, Oregon

December 3, 1971

[illegible]
7214

Anderson-Hannan
1626 N. W. 16th Avenue
Portland, Oregon 97209

NOTED
A. E. JOHNSON

WEST FREMONT INTERCHANGE
CONTRACT 7214

Painting of cadmium-plated, high-strength bolts on the West Fremont project will be severely curtailed this winter due to the fact that the minimum temperature for applying epoxy primer is 50 degrees. So far, with no acceptable results, your people have been searching for an alternate to this epoxy primer that could be used at a colder temperature.

We believe that there is an epoxy primer manufactured by CIBA Company which would help to solve this problem. We are told that it can be applied down to at least 40 degrees F with good results. This material is handled locally by Miller Paint Company, and Mr. John Buckinger at their factory at 210 S. E. Madison Street in Portland is available to discuss this product with you.

Rather than to go into a long-term testing program in our laboratory for this material, if you are interested in using it, we would propose that a field trial be made of it to determine its acceptability. This could consist of painting one or more splice plates to determine the adhesion, hardness, etc. of the paint. If this test looked good, the material could then be accepted for use on the project.

If you are interested in investigating this material, please advise Mr. Howard.

RECEIVED
DEC 6 1971
OFFICE OF
STATE HIGHWAY ENGINEER

R. L. Schroeder
Metropolitan Engineer

12-6-71

by

ORIGINAL SIGNED BY EDWARD L. HARDT

Edward L. Hardt
Assistant Metropolitan Engineer

ELH:cw
cc: John Jenkins
A. E. Johnson
Ivan Merchant
John Howard

RECEIVED
DEC 6 1971
FOR FILING

NOTED
A. E. JOHNSON

OREGON STATE
HIGHWAY DIVISION
METROPOLITAN REGION

Portland, Oregon 97213
December 1, 1971

Anderson - Hannan
1626 NW 16th Avenue
Portland, Oregon 97209

re: West Fremont Interchange
Stadium Fwy Project
Contract No. 7214

Gentlemen:

Your November 1 letter and Industrial Painting and Sandblasting Company's letter dated October 29, 1971, indicate that Enjay has in stock 1410 gallons of Hi-Build Vinyl that is now supplus due to our changing the color. This material was to be used on the exterior girder surfaces.

As you know the State has spent considerable time and money trying to eliminate the unacceptable bubbling - pinholing characteristics of Enjay's vinyl. These experiments did not show an acceptable solution using the Enjay material. In addition, after approximately three months exposure to sunlight the color showed staining and severe fading. Mr. Hardt in his letter dated June 24, 1971, notified you it was unacceptable because of this.

We believe the Enjay Hi-Build vinyl does not meet the following specifications:

1. Page 59, par. (b) It cannot be used as it comes in the container.
2. Page 60, par. (d) Does not meet the solids and weight requirements.
3. Page 60, par. (f) Has unacceptable pinholing characteristics.
4. Page 56, Par. (d), & page 59, par. (c) Does not meet specified color
5. Page 56, par, Manufacture: Paint thickens when stored for a perior of time.

The interior girder surfaces were not considered critical and these requirements were overlooked. The exterior surfaces are critical and we would not permit the use of this material on them. Therefore, the State does not feel obligated to purchase the surplus material.

Sincerely,

CM 12

JOHN D. HOWARD
Resident Bridge Engineer

RECEIVED
DEC 3 1971
OFFICE OF
STATE HIGHWAY ENGINEER

cc: Mr. A. E. Johnson
Mr. Edward L. Hardt
Mr. Ivan D. Merchant
Mr. Robert Shotwell
file
JDH:dfh

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DEC 27 1971
FOR FILING

[illegible]
7214

(8)

November 26, 1971

Andersen-Hansen
3427 N. E. Halsey Street
Portland, Oregon 97213

433

Gentlemen:

The State Highway Commission at its meeting on November 24, 1971, considered your request for an additional 120 calendar days to complete Contract No. 7214 for work on the West Fremont Interchange Section of the Stadium Freeway in Multnomah County.

Careful consideration was given to the reasons you submitted. However, in light of the available facts and the provisions of the contract, the Commission granted you a 30-day extension of time on each of Units B and C without assessment of liquidated damages.

If there are pertinent facts which have not yet been considered, you should contact the Resident Engineer, the Regional Engineer, or the Construction Engineer in the Salem Office.

Very truly yours,

Floyd Query, Secretary
OREGON STATE HIGHWAY COMMISSION

bc F. D. Morgan
I. D. Marchant
V. E. Skoog
R. L. Schroeder
John Howard
Federal Highway Administration

cy HA Anderson
1-24-72
+1-27-72

4k

REQUESTS FOR EXTENSION OF TIME

Commission Meeting November 24, 1971

Request No.	Contract No.	Contractor	Section and Highway	Time Requested	Recommendation
1	7592	N. A. Toole Constr. Co.	Harper Jct. Rock Production, Central OR Hwy	16 days	grant 18 days
2	7486	Madson & Stokes Elec. Contr.	"B" Avenue-Middlecrest Rd. (Lake Oswego) Oswego Highway	28 days	assess L.D. = $1,400
3	7401	Ross Bros. Constr. Co.	Midland Info Center, The Dalles-Cal. Hwy	11/30/70-4/14/71	assess L.D., 12/1/ - 12/14/70 $1,050
4	7323	Donald M. Drake Co. & S. S. Mullen	Sunset Hwy-Beaverton Sec. Beaverton-Tigard Hwy.	318 days	grant 104 days
5	7594	Cascade Constr. Co.	Raleigh Hills-Hillsdale Sec., Beavetton-Hillsdale Highway	6 days	grant 6 days
6	7501	Ross Bros. Constr. Inc.	Nestucca R. (Ollie Woods) Br., FAS 613	70 days	grant 37 days; assess L.D. 34 days = $3,400
7	7546	Robert D. Copeland	Jumpoff Joe Cr.-Louse Cr. Interch., FAS 17-102	14 days	grant 10 days; assess L.D. 18 days - $2,700
8	7214	Andersen-Hannan	W. Fremont Interch., Stadium Freeway	120 days	grant 58 days
9	7430	All City Landscape, Inc.	Sunset Safety Rest Area Sunset Highway	16 days	grant 13 days
10	7525	Robert L. Divine	Eugene (Blue Star) Safety Rest Area, Pacific Hwy W.	6/1/71-8/23/71	grant 6/24/71 (Unit a) 8/23/71 (Unit b)
11	7452	Peter Kiewit Sons' Co.	Hubbard Interch. Sec., Pacific Hwy. (I-5) (Unit a)	86 days	grant 13 days; assess L.D. - 35 days = $5,250
12	7151	Guy F. Atkinson Co.	Tualatin R.-Pacific Hwy. Sec., E. Portland Freeway	811 days	grant 103 days
13	7352	Gibbons & Reed Co.	Weatherby-Lime Sec., Old Oregon Trail Hwy.	37 days	grant 32 days
14	7492	Paul Zimmerly Road Constr.	Gellatly Summit Sec., Corvallis-Newport Hwy.	17 days	grant 10 days

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NOV 29 1971

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7214

Salem, Oregon
November 26, 1971

R. L. Schroeder
Metropolitan Engineer

West Fremont Interchange
Contract 7214
Unused Enjay Vinyl Paint

Attention Edward L. Hardt

Reference is made to your letter of November 11 and to the attached report by J. D. Howard, Resident Bridge Engineer.

At the time we discussed with all contractors the question of changing the color of our vinyl paint, inquiry was made as to the amount of Enjay vinyl on hand. It was determined that this was no problem and it could be used in the interior of the beams. In fact, as I remember, there was some question about material in a warehouse and we were told that none was ordered.

In view of the above and in view of the problems we have encountered with this vinyl and the severe fading and discoloration, I feel that we are not in a position to utilize this paint or to participate in the purchase of it. Therefore, any request for purchase must be denied.

A. E. Johnson
Assistant State Highway Engineer

AEJ.ja

cc R. L. Porter
Tom Edwards
Ivan Merchant
John Howard
Robert Shotwell

FORM E-30 (REV. 10-69)

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
November 11, 1971

SUBJECT: West Fremont Interchange
Contract No. 7214
Unused Enjay Vinyl Paint

To: A. E. Johnson
Ass't. State Highway Engr.
State Highway Building
Salem

Attached you will find copies of correspondence from Industrial Painting & Sandblasting, who are the painting subs on the West Fremont Interchange, from Anderson-Hannan and from John Howard relating to a problem that we have with Enjay's vinyl paint which is stored in Portland and which was to have been used on the West Fremont Project. This paint is the original dark green color and is no longer usable because we have changed color. It is possible to use this paint on the East Fremont project because that job still has considerable inside girder painting to be done where the paint color is no factor.

There are good reasons pro and con as to whether this paint should be utilized on our work. In favor of its use is the basic fact that it was produced for our Contractor's use on the project although there is some question as to whether this particular lot was actually ordered or whether it was manufactured in anticipation of an order. The fact that we changed paint color for the exterior of the girders after the insides had been painted made this paint unusable as intended for the West Contractor's use.

On the other hand, as mentioned in Mr. Howard's letter, the paint does not meet our specifications for a number of reasons. Even if we were to ignore those specifications relating to thinning and paint weight and pinholing, we still would not have allowed its use on the outsides of the girders because this paint has shown a characteristic of fading under sunlight which would have been totally unacceptable for exterior use.

For some time Enjay has been attempting to get Klass Bros., the painters on the East project, to use up this surplus paint. Klass is reluctant to do this because (1) he would have to bring in special high pressure equipment to handle the paint and (2) he would have to buy the thinner which is required in order to use Enjay's paint. Enjay offered to give him the thinner required but balked when he insisted on a payment of $990 for the cost of bringing in the special spray equipment and other costs of handling this paint.

From a standpoint of economics, if we were to decide to allow this paint to be used and assuming the State would pay Klass' extra costs in applying same, there would be a slight cost benefit to the State. We are presently paying a premium of $1.26 per gallon for the Carbolene vinyl. If the Enjay paint is used the cost of thinner would be about $.30 per gallon and Klass' $990 spread out over the 1410 gallons is about $.70 per gallon giving a total extra cost to use this paint of about a $1.00 a gallon compared to the $1.26 which we pay for each gallon of Carbolene used.

From the standpoint that we changed the job specification for paint color, we have an obligation for the use of this paint; however, from a Contractural viewpoint, since the material does not meet our specifications, I fail to see how we are actually liable for it. We concur with Mr. Howard's recommendation that the material be rejected.

R. L. Schroeder
Metropolitan Engineer

By:

Edward L Hardt

Edward L. Hardt
Assistant Metropolitan Engineer

ELH:pb

Encs

cc: Ivan Merchant w/attach.
John Howard
Robert Shotwell w/attach.

RECEIVED
NOV 12 1971
OFFICE OF
STATE HIGHWAY ENGINEER

FORM E-30 (10-67)

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon
Nov. 5, 1971

SUBJECT: West Fremont Interchange
Contract 7214

To:

Mr. E. L. Hardt
Asst. Metro. Engineer
OFFICE

Enclosed are letters from Andersen - Hannan and his painting subcontractor regarding disposition of 1,410 gallons of Enjay vinyl VM 5537. The painting subcontractor's letter indicates this material would have been used on the exterior surfaces, but due to our change in color it is now surplus.

Attached is a summary of paint samples taken and the test results for this project. You will note only four meet the specified weight per gallon and solids content, and this is because they have not been thinned. Thinning would be necessary to use it in the painter's spray equipment. The paint has unacceptable pinholing characteristics. You are aware of the time and money the State has spent trying to eliminate the bubbling problem in the Enjay material without success. Finally, where this vinyl was used on the interior of the girders and exposed for several months to sunlight , severe fading and discoloration has occured. Enjay has done nothing to correct this, so the surplus vinyl is completely unacceptable for use on exterior surfaced.

To summarize Enjay's vinyl does not meet the following specifications in the special provisions:

1. Page 59, par. (b) It cannot be used as it comes in the container.
2. Page 60, par. (d) Does not meet the solids and weight requirements.
3. Page 60, par. (f) Has unacceptable pinholing characteristics.
4. Page 56, par. (d) & page 59, Par. (c) Does not meet specified color.
5. Page 56, Par. Manufacture Paint thickens when stored for a period of time.

We recommend this material be rejected.

J. D. Howard
J. D. Howard
Res. Bridge Engineer

METROPOLITAN ENGINEER
RECEIVED
NOV 5 - 1971
☐ ME ☐ AME ☐ AME ☐ MCE ☐ MCE ☐ MTE

ANDERSEN-
HANNAN
A JOINT VENTURE
BOX 13367
PORTLAND, OREGON 97213

November 1, 1971

Oregon State Highway Dept.
Sixteenth & Savier Streets
Portland, Oregon 97209

Re: West Fremont Interchange
Contract No. 7214

ATTENTION: John Howard

Dear Sir:

Transmitted for your consideration is Industrial Painting & Sandblasting Company's letter dated October 29, 1971, concerning their stock pile of leftover paint after you changed the color on the exterior girders.

Very truly yours,

ANDERSEN-HANNAN

Ralph Hannan Jr.

Ralph Hannan Jr.
Project Manager

RH:lw
Enc.

[illegible] BLVD PHONE [illegible] PORTLAND, OREGON

Industrial Painting and Sandblasting Co.

BRIDGES - BUILDINGS SHIP - STACKS TANKS - TOWERS

October 29, 1971

Andersen-Hannan
1626 N.W. 16th Ave.
Portland, Oregon 97209

REF: Fremont Bridge

Gentlemen:

Enjay Chemical Co., our material supplier, has in their warehouse in Portland 1,410 gallons of Hi-Build Vinyl paint (Enjay Product VM 5537). This material was placed there for our use as needed.

On July 12, 1971 we were instructed not to use any of this material on the exterior of box girders and floor beams, as the State had issued an order to change color. The 1,410 gallons of paint that we refer to here is material unused after completion of the interior girders.

Enjay Chemical Co. is looking to us for payment of this material. The price is $3.75 per gallon.

Sincerely,

INDUSTRIAL PAINTING & SANDBLASTING CO.

John R Kreiter

John R. Kreiter,
Vice President

JRK:jc

Summation of field samples for Enjay 5537

O.S.H.D. lab. #	weight lbs/gal	total solids	thinner?	met specs?	usuable as sampled?
971202	9.18*	25.5%*	yes	no	yes
965478	9.27	30.0%	no	yes	no
969955	9.16*	29.2%	yes	no	yes
965891	8.94*	26.9%*	yes	no	yes
964819	9.16*	27.3%*	no	no	no
964549	8.90*	25.5%*	yes	no	yes
965892	9.36	30.1%	no	yes	no
965889	8.93*	26.7%*	yes	no	yes
965890	9.26	30.0%	no	yes	no
965478	9.27	30.0%	no	yes	no
965479	9.08*	28.0%	yes	no	yes
964550	8.86*	25.1%*	yes	no	yes
962548	10.51*	52.9%	no	no	no
962547	8.94*	36.9%	yes	no	yes
961926	9.74*	38.1%	no	no	no
961925	no tests run viscosity too high				no
947082	9.38	30.1%	no	no	no
specified limits	9.2 - 9.6	28% min			

*does not meet specs

RECEIVED
NOV 26 1971

7214

November 24, 1971

Mr. R. E. Simpson
Division Engineer
Federal Highway Administration
P. O. Box 300
Salem, Oregon 97308

Federal-aid Project No. I-405-8(20)303

Dear Sir:

Herewith for your consideration and approval are copies of Extra Work Order No. 14, Contract No. 7214, covering repairing damage to the inorganic zinc primer caused by the rusting of the top flange of the steel girders on the West Fremont Interchange Section of the Stadium Freeway in Multnomah County.

This order covers work necessary to repair the damage to the inorganic zinc primer on the steel girders on this project. This damage was caused by rusting of the top of the upper flange of the girders. The special provisions for this project specify that a prime coat of inorganic zinc be applied in the shop and that after erection and pouring of the deck concrete, the finish coat be applied. The provisions of the contract also specify that all contact surfaces, metal to concrete, shall not be painted.

The large quantity of structural steel on this project with the inherent problems of scheduling of erection has caused many of the members to be subjected to rusting longer than would be necessary under normal conditions.

The work to be done under this order will be to remove all loose rust stain from the primed surfaces of the girders and clean and reprime the top flange edge where paint failure has occured. On future projects having large quantities of structural steel the provisions will specify that all surfaces be given a prime coat of paint.

This work was tentatively recommended for approval by the Federal Highway Administrative District Bridge Engineer April 12, 1971.

Your approval as of April 12, 1971 is requested.

R. L. Porter
State Highway Engineer

By

L. H. Young
Program and Planning Engineer

BWM:js

NOV 22 1971

FOR FILING

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
November 19, 1971

SUBJECT: West Fremont Interchange
Contract No. 7214
Winter-Time Painting

To: Ivan Merchant
Bridge Engineer
State Highway Building
Salem

Attached you will find a copy of a letter dated November 18, from Ralph Hannan, Project Manager for the West Fremont Interchange. This letter goes into the scheduling problems of completing the project as related to painting of cadmium plated high strength bolts with epoxy masting. This letter shows the chain reaction when a certain piece of work, in this case painting of cad plated bolts, cannot be done.

This letter is forwarded for your information and for your possible use in discussions with the Federal Highway people with regards to time extension for the subject project.

R. L. Schroeder
Metropolitan Engineer

By:

Edward L Hardt

Edward L. Hardt
Assistant Metropolitan Engineer

ELH:pb

Encs

cc: A. E. Johnson w/attach.
John Jenkins "
Robert Shotwell "
John Howard

RECEIVED
NOV 22 1971
OFFICE OF
STATE HIGHWAY ENGINEER

NOTED
A. E. JOHNSON

FORM 2-30 (REV 10-69)

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
November 19, 1971

To: Mem To [illegible]

SUBJECT: West Fremont Interchange
Contract No. 7214
East Fremont Interchange
Contract No.'s 7310 & 7311
Epoxy Coating for Cadmium Plated
Bolts

Painting operations on the subject projects are likely to be held up this winter due to the problem of applying epoxy mastic over the cadmium plated bolts in the winter time. The specifications for the epoxy paint do not allow it to be applied when the temperature is below 50 degrees. The painters have been searching for an alternate to the epoxy coating that will allow them to perform this work when the temperature is below 50 degrees.

Dave Muth of the Carboline Company has been pushing a vinyl primer called Rust Bond 6C. At the moment the laboratory has an inorganic zinc coated sample of steel left by Mr. Muth onto which they will apply some Rust Bond 6C and place it in a moist room for testing. Jim Chidsey told me that it would take at least 30 days before they could make any meaningfull evaluation of this coating as compared to the white metal blast and three mils of inorganic zinc which the specifications originally called for.

Jim suggested as an alternate to the vinyl primer that the Contractors try to heat the splice plates by the application of welding machine electrodes. He said that if the steel temperature was raised to between 60 and 70 degrees that this would supply ample heat to cure out the epoxy and that no further heat would have to be added to the steel or paint. It is also possible to heat the plates by using portable space heaters although this would be quite difficult on the outsides of the girders.

There is another solution to this problem which the Contractors have been avoiding and that is to sandblast the cadmium plating off of the bolts and apply inorganic zinc as on the rest of the structural steel. It might be pointed out that this entire problem of epoxy coating on the cad plated bolts is one of the Contractor's choosing and not one that is in anyway called for by the specifications.

I talked to Mr. Shotwell and Mr. Howard about the idea of heating the splice plates and asked them to discuss this with the Contractors. John Howard reported back that John Krieter had tried heating the splice plates with the welding electrode in the shop and found that since the plates are rather large, that while they were heating one part of the plate, the other part was cooling and they could never get the entire plate at the proper temperature. What it amounts to is they don't believe that heating the plates is a feasible method of taking care of the epoxy problem.

It appears as though the only solutions to the epoxy coating problem is either sandblasting the cad plating off the bolts or using the vinyl primer which will apparently take the laboratory 30 days to evaluate.

R. L. Schroeder
Metropolitan Engineer

By:

Edward L. Hardt

Edward L. Hardt
Assistant Metropolitan Engineer

ELH:pb

cc: W. E. Johnson
Ivan Merchant
John Jenkins
John Howard
Robert Shotwell

METROPOLITAN ENGINEER
RECEIVED
NOV 19 1971
MDE MTE

ANDERSEN-HANNAN
A JOINT VENTURE
BOX 13367
PORTLAND, OREGON 97213

November 18, 1971

Oregon State Hwy. Div.
5821 N.E. Glisan Ave.
Metropolitan Section
Portland, Oregon

Re: West Fremont Interchange
Contract No. 7214
SUBJECT: Your letter of November 9, 1971

ATTENTION: Ed Hardt, Metro. Engr.

Dear Sir:

During the meeting discussing our primer coat problem, we discussed time extension and penalty. We have also received a letter from John Howard, dated November 11, 1971, in which he generally outlines the shutdown order procedure, whereby calendar days should not be charged against us.

The purpose of this letter is to explain to you how the painting influences the completion of other phases of this project. It is our hope that this information will aid your argumentative presentation regarding a time extension for schedule "B".

The lack of proper weather conditions has prevented us from applying the required epoxy paint over any of the cadmium plated bolt patterns. This, in turn, has caused the following problems and inconveniences:

1. Painting subcontractor has to move his equipment, crew and supplies back in to complete his epoxy and vinyl work. For several weeks he has been able to complete only washing, flange repair and prime coat corrective work.
2. Concrete surface painting on lower levels and pier shafts has been curtailed because of splatter and overspray.

3. The electrical subcontractor's operation has been hindered because his [illegible] light standards would interfer with the painting subcontractor's specialized equipment.
4. There are instances where the mounting of aluminum pipe rail would limit the required reach of the painting subcontractor's specialized equipment.
5. The overhang and barrier painting has been held up due to the epoxy and vinyl paint problems.
6. The above problems have causdd delays in scheduling and increased traffic problems in all the remaining areas of work.

At this time, we have in the Highway Department Materials Laboratory, alternate products under test, which if accepted would go a long way to solve most of the above problems and would be compatible with the weather conditions of this season.

Very truly yours,

Ralph Hannan Jr.

Ralph Hannan, Project Mgr.
ANDERSEN-HANNAN

RH:lw
cc: John Howard; Cauron Limited; Industrial Painting & Sandblasting

RECEIVED
NOV 15 1971
FOR FILING

[illegible]
7214

November 12, 1971

Oregon State Highway Commission

Request for Extension of Time
No. 8
November 24, 1971

Gentlemen:

Andersen-Hannan, contractor for the construction of the West Fremont Interchange Section of the Stadium Freeway, Multnomah County, Contract 7214, has requested an additional 120 calendar days in which to complete the contract work without assessment of liquidated damages. The contractor cites extra work involved in plan changes for expansion joints and labor strikes during the summer of 1971 which prohibited work during the prime construction season as reasons for his failure to complete the work in the time allotted.

The contract work was divided into three units with different calendar day allotments for each unit. These are: Unit (a) 550 calendar days; Unit (b) 730 calendar days; and Unit (c) 830 calendar days.

Commission action of June 22, 1971, granted the contractor an 80-day extension on both Units (b) and (c) without assessment of liquidated damages because of a strike in the steel fabricator's plant. Unit (a) was completed within the time allotted in the contract.

Extra work involved in plan changes for the expansion joints and associated work delayed the contractor's operations a total of 58 days. The loss of efficiency in exchanging summer days (prime construction season) for winter days due to labor strikes is an indeterminate factor and is not being considered for an extension without assessment of liquidated damages at this time.

I recommend that the contractor be granted a 58-day extension to both Units (b) and (c) without assessment of liquidated damages. This is to be considered an interim extension as delays due to other factors, paint problems, et cetera, cannot be properly evaluated at this time.

This is a Federal-aid project and we have the concurrence of the Federal Highway Administration.

This matter was verbally approved by Mr. Jackson on November 11 and will be on the agenda for your confirmation at the November 24 meeting.

Very truly yours,

R. L. Porter
State Highway Engineer

cc: Floyd Query
Tom Edwards
A. E. Johnson
Gary L. Sund
Ivan Merchant
F. D. Morgan
L. H. Young
V. E. Skoog
R. L. Schrodder

CAG:ag kw

cy H A Anderson
1-24-72
+ 1-27-72

Form FHWA-121 (12-67)
UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

TO : Mr. R. L. Porter, State Highway Engineer
Salem, Oregon

DATE: November 2, 1971

In reply refer to: 08-35-DA

FROM : R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Oregon I-405-8(20)303
West Fremont Interchange Section - Stadium Freeway
Contract 7214 - Request for extension of Contract Time

Mr. Johnson's letter of October 28, 1971, requests our concurrence in a 120 day extension of contract time on this project. The time extension would apply to contract time (b) which was established to facilitate early use of the I-405 connection to the west.

While early completion is now considered to be "not advantageous" and there may be some small relief from maintenance liability, the contract does not relieve the contractor of such responsibility. The contractor would appear to benefit by completing the remaining work without the hinderance of traffic. It should also be noted that more than $50,000 worth of work was deleted from this contract and added to the Unit 2 project thus reducing the amount of work to be performed within the established time limit.

The loss of efficiency in exchanging summer days for winter days due to labor strikes is an indeterminate factor. If support data can be assembled to indicate some rate of efficiency it may be possible to arrive at an acceptable number of actual days involved. This analysis should show other work that could have been performed following the strike and should contain a resume of weather conditions during the exchanged time period. In combining this factor with the 80 day extension previously granted, the total result may not become serious.

The 58 day extension for joint revisions and associated work is supportable and becomes a valid reason for time extension.

At this time, we concur in the 58 day extension on contract time (b). It is understood that additional time may be warranted due to strike delays and possibly due to paint problems. We do not wish to take action on these factors until detailed and factual support data can be presented to justify a specific number of days.

cy H Aardahl
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1-27-72

RES.

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NOV 5 [illegible]
BRIDGE DIVISION

RECEIVED
NOV [illegible]
OFFICE OF
STATE HIGHWAY ENGINEER

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 7214 Contractor Andersen-Hannan

Highway Stadium Freeway

Section West Fremon t Interchange

Kind of Work Grading, Paving, Structure, Signing, and Illumination

It is recommended that the request for increase in the number of workdays within which to complete said contract be [redacted] or GRANTED. The reasons for such recommendation are as follows:

~~Delays caused by (1) expansion joint revisions, (2) labor strikes and (3) paint problems.~~

Grant 58 days without assessment of liquidated damages account revisions to expansion joints.

Recommended for Approval:

Edward L. Hardt
Assistant Division Engineer

Ivan V. Merchant
~~Construction~~ Engineer or Bridge Engineer

A. E. Johnson
~~Assistant~~ State Highway Engineer

Cy HA Andersen
1-24-72
+ 1-27-72

Contract No. 7214

Project designation F. A. I-405-8(20) 303
State-Federal

Date awarded April 29, 1969

Work started June 4, 1969

Per cent completed 93.5% October 5, 1971
Date

No. of Workdays Allowed (a) 550 (b) 810 (c) 930

No. of Workdays Used (a) 550 (b) 825 (c) 825

No. of Added Workdays Requested (b) ~~120~~ 58

E—330 (Rev.)—5M—10-57

OREGON STATE HIGHWAY COMMISSION

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon

Date October 4, 1971

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from 810 days to 930 days, within which to complete our Contract No. 7214, without the assessment of liquidated damages. The said contract is described as follows: West Fremont Interchange, Schedule "B"

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows: See attached letter dated Spetember 27, 1971 to John Howard, Resident Engr.

Respectfully submitted,

ANDERSEN-HANNAH
Contractor

By

CONSENT OF SURETY

Date October 5, 1971

We, GENERAL INSURANCE COMPANY OF AMERICA
1500 S. W. First Avenue, Portland, Oregon, as

surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

GENERAL INSURANCE COMPANY OF AMERICA
By
Attorney-in-fact

(SEAL)

NO LONGER REQUIRED
Resident A

RECEIVED
OCT 29 1971
FOR FILING

I-405 [illegible]
7214

October 28, 1971

Mr. R. E. Simpson
Division Engineer
Federal Highway Administration
477 Cottage St. N. E.
Salem, Oregon 97308

Dear Mr. Simpson:

West Fremont Interchange
Stadium Freeway
FA Project No. I-405-8(20)303
Contract 7214
Contractor's Request For Additional Calendar Days

At the time of advertising for bids for the West Fremont Interchange the specifications were written to provide for completion of various phases of the work under three different "contract times". These were designated as "contract times" (a), (b), and (c).

In revision letter no. 1 dated March 7, 1969 as included in the contract, "contract time" (a) required completion of certain work before the elapse of 550 calendar days, "contract time" (b) required certain other work to be completed before the elapse of 730 calendar days and "contract time" (c) required completion of all work under the contract before the elapse of 850 calendar days.

"Contract times" (a) and (b) anticipated letting the adjacent project, West Fremont Interchange (Unit 2) at an early date and subsequently opening said Unit 2 and the work covered by "contract times" (a) and (b) to the motoring public prior to completion of all work under the subject contract. Unanticipated circumstances caused delay in letting Unit 2 and will prevent the early opening of a part of the interchange as originally anticipated. This eliminates the reason for specifying early "contract times" (a) and (b). The work under "contract time (a) has been completed and needs no further consideration. "Contract times" (b) and (c) have previously been granted an 80 day extension.

The contractor now requests a 120 calendar day increase in "contract time" (b) to allow simultaneous completion with "contract time" (c). Early completion of the work under "contract time" (b) is no longer advantageous to the State or the traveling public. This work must be combined with work yet to be completed under the Unit 2 contract in order to allow the motoring public access to a completed portion of the structure. Work on Unit 2 will not be completed in time to make early completion of

Cy H.O. Anderson
1-24-72
1-27-72

work under "contract time" (b) a benefit to the State or the public. An increase in "contract time" (b) will provide certain advantages to the State by allowing simultaneous final inspection of the work included under "contract times" (b) and (c) and by eliminating maintenance and damage liability for the work required under "contract time" (b) until final completion of the project.

During the period, June 3 to July 11, 1971 (39 days), the project was shut down due to labor strikes. The contractor was not charged days during this period and on the surface it appears he has lost no time. Actually the contractor exchanged summer working days for winter working days. Since the efficiency of the work is dependent upon the weather, the work capability during the winter days is less than during the summer days, it appears that the contractor is due some indeterminate number of additional days as compensation for the secondary delays caused by the difference in efficiency.

Due to modifications to the deck expansion joints as covered in Price Agreements 13 and 14, the contractor is required to bulkhead the deck at each expansion joint prior to pouring the main deck sections and to remove the bulkheads and pour the expansion joint sections after the main deck sections are poured. Bulkheading at 18 joints is estimated to require 13 calendar days and pouring the expansion joint sections will require 31 calendar days. Pouring of parapet rail after completion of the deck expansion joint sections will require an additional 14 calendar days. The total time required for expansion joint revision amounts to 58 calendar days.

Because of the delayed letting of the West Fremont Interchange (Unit 2) contract and the resulting loss of benefit to the State and motoring public due to inability to provide an early opening for a portion of the interchange, and due to the delay caused by expansion joint revision, and due to the secondary delay caused by the strike, an increase in "contract time" (b) of 120 calendar days is recommended. This will allow simultaneous completion of the work under "contract times" (b) and (c). Your approval of such an increase is requested.

Very truly yours,

R. L. Porter
State Highway Engineer
By

A. E. Johnson
Assistant State Highway Engineer

RWE/ak

cc: L. H. Young
V. Skoog
R. Schroeder
J. Howard

cc R. L. Porter
Tom Edwards

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OREGON STATE
HIGHWAY DIVISION

METROPOLITAN SECTION
5821 N. E. Glisan Portland, Oregon 97213 Phone 229-6971

November 9, 1971

Anderson-Hannan
1626 N. W. 16th
Portland, Oregon 97209

NOTED
A. E. JOHNS

ATTENTION: Ralph Hannan

Re: West Fremont Interchange
Contract No. 7214

Gentlemen:

At our meeting yesterday you indicated you still had questions regarding the acceptability of Carbozinc 11 inorganic zinc primer which is being used for primer repair work on the West Fremont Interchange. In order that there is no doubt in your mind, let me again try to clarify this question. The facts of the matter are:

1. Last summer the Highway Division requested that you change the supplier of vinyl for the project from Enjay Chemical Company to the Carbolene Company.
2. Subsequent to this change, you requested through your painting subcontractor that Carbozinc 11 be allowed for primer repair in lieu of Rust Ban 193.
3. The State is presently allowing the use of Carbozinc 11 in spite of the fact that we do not have a written request from you for its use. We have dropped our insistence for this request.

If you know of a reason or reasons why Enjay's Rust Ban 193 should be used for primer repair instead of Carbozinc 11, then you should return to using it. The Highway Division knows of no particular advantage of one brand of paint over the other and so will allow either to be used.

If you have any more questions regarding the choice of inorganic zinc for the project, please advise.

R. L. Schroeder
Metropolitan Engineer

By: Edward L Hardt

Edward L. Hardt
Assistant Metropolitan Engineer

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NOV 11 1971
OFFICE OF
STATE HIGHWAY ENGINEER

ELH:pb
cc: A. E. Johnson
Ivan Merchant
John Howard
Robert Shotwell
Drake-Willamette

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7214

Form FHWA-121 (12-67)
UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

Box 300
Salem OR 97308

DATE: November 9, 1971

In reply refer to: 08-35.6

TO : Mr. R. L. Porter, State Highway Engineer
Salem, Oregon
Attention: Mr. A. E. Johnson

FROM for R. E. Simpson, Division Engineer
Salem, Oregon

SUBJECT: Protective Coatings for Steel

Attached are two articles on the protective coating of steel using zinc and other materials. The article by Montle from the Carboline Company indicates that the problems encountered in the Fremont complex are not uncommon to inorganic zinc. The article by Dahlke gives some interesting guidelines on paint system selection. The comments on zinc and epoxy coatings might have some significance for future jobs. I am forwarding three copies for possible distribution to your specification and laboratory people.

Attachments

RECEIVED
NOV 11 1971
OFFICE OF
STATE HIGHWAY ENGINEER

NOTED
TOM EDWARDS

AEJ

11-15-71
cys to
[illegible]
Ed [illegible]

BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

File:
Protective coatings
(for steel).

Copy sent Schell Oct-22-71 FHWA-14
JAS.

Unexplained Coatings Phenomena with Some Partially Baked Answers

J. F. MONTLE, *Carboline Co., St. Louis, Mo.*

IN COATINGS formulation and evaluation, certain results have occurred which are reproducible but unexplainable. Some answers have been suggested to explain the cause of these phenomena, but most have not been rigorously proven.

Undercutting

Undercutting is the primary cause of failure of maintenance coatings. Evaluating the rate of undercutting is normally quite straightforward. For example, when a coated test panel is exposed to a sulfuric acid environment, the effects of undercutting are quite visible as the voluminous rust product pries up the film (Figure 1). The corrosion products of steel exposed to sulfuric acid occupy a much greater volume than the original base metal, and undercutting is quite rapid.

In some test exposures, predominantly where salts are involved, there are difficulties in evaluating the rate of undercutting because it is not easily determined by visual means (Figure 2). The rate of undercutting as measured by visual rust formation in these environments is considerably less than the rate of undercutting as measured by carefully checking adhesion in the vicinity of the scribe. Most organic coating systems when exposed to salt fog cabinets will exhibit a steadily increasing loss of adhesion from the scribe if checked with a knife very shortly after removal from the test cabinet. If the panels are allowed to dry and the degree of undercutting then checked with a knife, the coating can usually be removed, but with difficulty, as far back as it could while the coating was fresh from the cabinet. After the distance back from the scribe in which the coating could be readily removed while wet has been reached, the adhesion becomes excellent, and the coating cannot be removed without splitting the primer.

The distance from the scribe where the coating can be removed easily while wet will increase steadily with time. The surface of the panel beneath the coating in this area shows no visible signs of corrosion.

Part of the same phenomenon is the row of blisters frequently observed away from the scribe. This is also more common to salt exposures than any other environment, and more frequently, salt water immersion. A row of blisters appears at a uniform distance from the scribe but not necessarily touching the scribe and thus indicates the maximum distance back from the scribe that the coating can be readily removed with a knife. If the panels are then immersed in salt water for a longer period of time, frequently a second and third row of blisters will appear progressively further away from the scribe.

Although the reason for this difference in adhesion is not understood, it is of enough significance that the two methods of rating undercutting, visual and knife, be used in all grading of test panels in salt exposures.

Anything that weakens the primer or allows it to be subjected to chemical attack obviously will lead to a greater rate of undercutting. The better the surface preparation, the lesser the rate of undercutting. Furthermore, anything which puts a greater stress on the bond will increase the rate of undercutting. Therefore, heavy film thickness, rigid materials frequently undercut more rapidly than thinner film, more flexible materials. It seems logical, then, that additional coats of the same material would cause more rapid undercutting than lesser thickness or number of coats. In many cases, however, this is not true with respect to undercutting. For example, three coats of epoxy coal tar at 8 mils per coat (24 mils total thickness) will undercut far less than two coats of the same system at 16 mils.

One possible explanation is that when corrosion occurs by electrical galvanic action, permeation of ions through the film completes the circuit and causes subfilm corrosion. Therefore, the additional film thickness will reduce the rate of undercutting because there will be a reduced amount of

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Note: This article is a highly condensed version of the original paper. For information on obtaining copies of the complete paper, interested readers should contact the editor of this journal, NACE, 2400 West Loop South, Houston, Texas 77027.

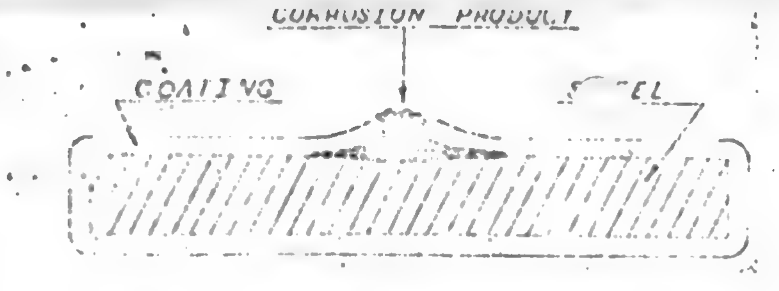

Figure 1 – Undorcutting in a sulfuric acid environment.

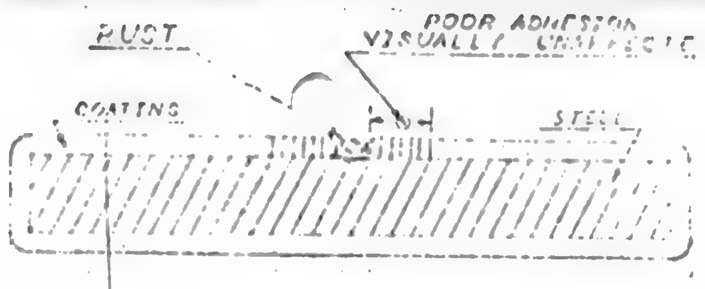

Figure 2 – Undercutting in a salt fog atmosphere.

penetration through the film. This explanation would also explain the row of blisters a finite distance back from the scribe. These blisters would be caused by penetration through the film aggravated by the corrosion at the bare scribe, and this would complete the electrical circuit. While this brief and incomplete explanation might be the answer to the blisters along the scribe and the reduced undercutting with increased film thickness, it does not explain why there is a significant loss of adhesion from the scribe where there is no visible corrosion. It does not explain why the adhesion is poor when the panels are freshly removed from the test exposure and why adhesion is quite good after allowed to dry overnight.

Cold Wall Effect

The greatly increased blistering of linings when subjected to thermal gradient is called the "cold wall" effect. One of the theories that has been presented to explain this effect is that the thermal gradient through the coating creates osmotic pressure and accelerates permeation through the film. In this respect, this failure is thought to be very similar to that initiated by a concentration cell or a surface contamination.

According to another theory, gases from the liquid media diffuse through the coating, condense upon reaching the cold wall, and the larger molecule formed by the liquid water cannot diffuse back to the film as readily. The pressure formed creates the blisters.

The author's work has shown that the effect of thermal gradient is most pronounced when dealing with purer solutions; i.e., penetration of pure water is accelerated more by a thermal gradient than salt water solutions. The rate of acceleration by thermal gradient is relatively independent of coating type. While the author's work has not indicated a better theory to explain this phenomenon, it has verified that the blistering which occurs is due to the degree of thermal difference.

Bubbling of Topcoats

One of the primary reasons for the success of inorganic zinc primers is that the film is open and porous, permitting free passage of the electrolyte to the base surface and providing a high degree of cathodic protection. However, this porous surface can cause some difficulty when the inorganic zinc primers are topcoated. Bubbling of the topcoat frequently occurs and is normally manifest shortly after the coating is applied. The bubbles usually grow rapidly and frequently burst, leaving a crater or void in the coating. The amount of bubbling varies from essentially none to several bubbles per sq inch. The bubbling occurs regardless of the method of application and with all generic types of coatings. Bubbling is worse, however, with coatings which dry rapidly on the surface.

The primary cause of bubbling is air and vapor displacement. When topcoats are applied over an inorganic zinc, the solvents in the vehicle will be absorbed by the porous primer. When this occurs, the air in the voids and porosities in the primer must be displaced. Also, as the liquid volatile solvents begin to evaporate from the porosities in the primer, the volume that they occupy is many times greater This large volume of gas then creates pressure which forces its way up through the topcoat, forming a blister If the coating is a film forming material which rapidly forms a skin on the surface, the bubbling will be aggravated. If the coating is one that stays wet for a long period of time, which permits the passage of the volatile solvent and air through the film without forming a blister, the amount of bubbling will be reduced

With properly formulated topcoats, bubbling is not a great difficulty, but it is interesting to the formulator that the differences between materials which exhibit little or no bubbling and which bubble badly is very slight. Also, bubbling with some coatings will vary tremendously from day to day or from area to area for no known reason. Sometimes, changing to a faster thinner eliminates the problem, but sometimes, a change to a slower solvent works Neither is there any explanation as to why random bubbling occurs. It appears that the solvents and air that are displaced migrate through the film to some particular void in the inorganic zinc primer, and all of the volatile material is channeled up through this spot, causing a bubble

Nobody has a complete understanding of why bubbling of topcoats occurs and exactly how to completely eliminate topcoat bubbling. When pinholes do occur in the film of a topcoat, it is primarily an aesthetic problem Pinholes and voids in the topcoat in normal service are rapidly filled with zinc salt corrosion products and have no noticeable effect on the life of the coating system

Passivation of the Steel Surface

Inorganic zinc primers protect the steel by the difference in potential between the zinc metal and the steel surface. The potential difference generated is more than sufficient to entirely prevent corrosion of steel in an aqueous environment.

Tests run by the author have shown that protection of the steel can be obtained with no difference in voltage. This has been observed by others and has indicated that the method of protection by inorganic zinc is not due solely to cathodic or galvanic protection. The theory is that cathodic protection lasts only a short time and that the rest of the protection is due to formation of basic zinc compounds which produce a protective film on the steel and fill the pores of the zinc. It is this zinc silicate iron complex which protects the steel from corrosion. The author feels that this is only a partial explanation. It is known that zinc salts rapidly form on the surface of the zinc and are essential in order to keep the zinc from sacrificing too freely. If it were not for these zinc salts, the service life of inorganic zinc primers would be quite short. There is a certain amount of permeation through this basic zinc [illegible] or zinc compounds that are formed, and there could be sufficient transfer of electrons to in some way passivate the surface of the steel to prevent it from going into solution.

Topcoating Epoxy Coal Tar

Epoxy coal tar coatings cannot be allowed to be exposed to sunlight for any period of time without encountering difficulty in applying topcoats. The problem is due to ultraviolet light. Subjecting epoxy coal tar panels to heat aging or other exposures for various periods of time has always resulted in a surface that can be topcoated with no difficulty. However, exposure to sunlight for even short periods of time will result in a surface to which topcoats cannot be applied without loss of adhesion. Upon exposure to sunlight, some type of chalk layer forms on the epoxy coal tar surface. To successfully apply a topcoat, this weak boundary layer must be removed by mechanical abrasion or by chemical treatment.

The tightly adherent chalk layer formed is not apparent when wiped with a thumb, it is not removed by scrubbing with water and soap or most common solvents. The question is, why does this chalk layer form so rapidly? Is it due to oxidation of the coal tar? It is difficult to remove, yet topcoats split this surface layer readily. Scrubbing with ketone and aromatic solvents will not remove this layer, but when coating systems which contain only these solvents are applied, they can readily be peeled off taking the chalk layer with them.

It has been proposed that the cause is some reaction with a surface catalyst blush. However, the sensitivity to weathering is the same after the first chalk layer has been removed. After removal of the chalk layer, the epoxy coal tar coating must be topcoated promptly. If it is allowed to weather another two or three days, once again the chalk layer will form. T[illegible]ause remains unexplained.

Topcoat Blistering

Unlike the phenomena discussed previously, one particular type of blistering is not reproducible. It sometimes occurs when inorganic zinc primers are topcoated overall on one side of the panel but only partially on the front side. When the panel is immersed in fresh or salt water, blisters sometimes appear on the back side of the panel directly opposite the spot on the front where there is no topcoat. The delineation can be quite sharp. For example, if there is a 1-inch bare strip on the front side of the panel, a 1-inch strip of blisters down the back of the panel is observed. The only answer that has been proposed is that the hydrogen gas generated by the reaction of the zinc dust with the corrosive media diffuses through the steel and forms blisters on the opposite side of the panel. This, however, seems rather unlikely. Why would the hydrogen diffuse through the steel panel rather than only through the inorganic zinc coating? Also, this phenomenon is puzzling in that it does not occur all of the time even with the same primer and the same topcoat.

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JOHN F. MONTLE research director at Carboline Co., St. Louis, Mo., supervises laboratory research and development activities. He received a BS in chemical engineering from Washington University. An NACE member for 10 years and chairman of Unit Committee T-6B, Montle is also a member of the Society for Paint Technology.

An Illustrated Pocket-Size Handbook

Practical Corrosion Control

of

Gas Utility Piping

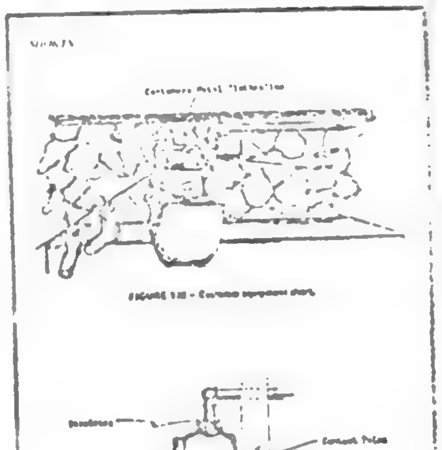
JOHN E. WRIGHT
Gas Service Company
Kansas City, Mo.

180 detailed illustrations showing how to go about controlling corrosion on gas utility piping are the main features of this book. Most situations normally encountered in trouble shooting and repairing leaking mains and service lines, detecting failed anodes, broken wiring, testing insulators, preventing or correcting shorts, and many others are covered with detailed, easy-to-understand drawings. They tell you what to do and what not to do.

Text and pictures give a variety of construction and repair details designed to inform the field crew foreman or supervisor about the proper ways to limit corrosion.

The information came from the practical experience of Mr. Wright and his co-workers. A manual essentially the same as this book is in use by his company in reducing corrosion damage.

A page from the book is shown in miniature at right.



CONTENTS INCLUDE:

- Causes of corrosion
- Examples of corrosion
- Basic corrosion cell
- Soil resistance measurements
- Insulators
- Shorts
- Measuring volts by meter
- Tapes
- Cost of coating and wrapping pipe
- Gas meter insulators
- Insulated unions
- Flange insulators
- Plastic pipe insulators
- Types of bonds
- Safety
- Handling anodes
- Testing anodes
- Short circuits
- Checkpoints
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- Ductile iron mains
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Zinc Rich Primers: Choice and Selection

C. A. DAHLKE, JR., *Rust Engineering Co., Birmingham, Ala.*

IT IS generally agreed that protection of steel with coatings is the most effective and economical approach to corrosion control. The most important part of a protective coating is the part in direct contact with the steel, the primer.

Zinc rich primers owe their corrosion resistant properties to the galvanic or sacrificial protection of the zinc dust particles in the primers. Zinc particles are in direct contact with each other and offer a direct electrical connection from the surface of the primer to the steel substrate. Since iron and steel are below zinc in the galvanic series, zinc will corrode in preference to them when in electrical contact in a corrosive environment.

A zinc rich primer is not like the zinc filled primers commonly used for priming galvanized steel. A zinc rich primer has an extremely high percentage of metallic zinc pigments, whereas the galvanized steel primer has a lower metallic zinc content and is mixed with zinc oxide. To qualify for SSPC inorganic zinc rich nomenclature, the metallic zinc dust content of a primer must be at least 75% by weight of the total nonvolatile content. An organic zinc rich primer must contain not less than 85% metallic zinc dust by weight of the total nonvolatile contents.

Zinc rich primers do not lend themselves to accelerated testing. The best method of evaluation is to test them under the conditions of use. Some long term testing in marine atmospheres has indicated that inorganic zinc rich primers have a longer life in those environments. However, similar tests run in areas remote from the sea have shown little or no difference in the life span. Submerged tests in fresh water have indicated a longer life with some organics than with some inorganics.

One of the reasons for the shorter life of some of the organics in early tests was that the zinc content was comparatively low, and the organic resins had a tendency to completely encapsulate the zinc particles, insulating them from the steel. When the particles in direct contact with the steel are used up, the galvanic protection is lost, and corrosion takes over.

Newer organic zinc rich primers with over 85% metallic zinc show good electrical contact with each other. The slight partial insulating effect from electrolytes on the surface of these zinc particles slows down the sacrificial action of the zinc, which can be very beneficial and can lengthen the life of a zinc rich coating and its galvanic protection under conditions conducive to formation of soluble zinc salts. In these cases, any zinc rich primer requires a top coat to protect the zinc.

Inorganic zinc rich primers, completely resistant to most solvents, are ideal without top coats for use as tank linings, where solvents are involved. Inorganic primers normally have better weather resistance, abrasion resistance, and temperature resistance than organic primers.

One of the major advantages of organic zinc rich primer is its ability to accept top coats more rapidly than inorganic zincs. It is impractical to topcoat inorganic zinc rich primed steel in the fabricator's shop because of the cure time required. Most organic zinc rich primers can be topcoated within a few hours and some, such as the phenoxy zinc rich and the vinyl urethane zinc rich primers, in a matter of minutes. These have definite advantages in high-volume fabrication shops and in-plant maintenance painting. Another advantage of the organic zinc rich primers is the ability to adhere better to a "less-than-perfectly" prepared surface, eliminating the requirement of a tie coat between the primer and top coat.

Selection of a Zinc Rich Primer

One of the most important considerations in primer selection is the complete coating system. If no top coat will be used, an inorganic zinc may be preferred. If a solvent based top coat is to be applied, an organic zinc rich primer

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Note: This is a highly condensed version of the original paper. For information on obtaining copies of the complete paper, interested readers should contact the editor of this journal, NACE, 2400 West

Another important consideration is when the top coat will be applied. If the primer is to be topcoated immediately, cure times become a major item.

Environmental conditions at the time and place of application are an important consideration. Water is necessary to complete the curing reaction of inorganic zinc rich primers. At temperatures below 7 C (45 F) and/or humidities below 50%, the curing rate of most inorganic primers is seriously retarded. Low humidity generally favors application of the organic types, and temperature below 7 C (45 F) begins to limit selection to a product such as the organic zinc rich phenoxy primer.

The environment in which the coating system will be located will have an effect on primer selection, even if two or three top coats are to be used. Some environments would be better protected with some type of primer other than zinc rich. For example, a highly caustic area subjected to splash or spillage of caustic material and mechanical damage would be far better off with a rust inhibiting epoxy primer. If mechanical damage in this area should occur to the zinc primer, the primer would be attacked and actually undercut the top coating.

Consideration should also be given to the applicator. Special techniques and training are required in application of zinc rich primers. This training is usually available from the supplier.

The manufacturer's experience with the zinc rich coating specified must be weighed. His ability to offer service, especially to the applicator, also is important. The manufacturer should be willing to guarantee the protective ability of the zinc rich primer and offer the service to back it up.

Economic Considerations

Zinc rich primers are relatively expensive when comparing costs, however, price per gallon can be deceptive. A low cost paint would probably have no more than 35% solids by volume. Either it does not go very far, or it is too thin to offer ample protection with one coat. Furthermore, an inexpensive primer often is applied over steel with little or no surface preparation. When the mill scale pops off, so does the primer. Properly top coated with two coats of low cost alkyd paints, this system will have a life expectancy of 3 to 5 years in a noncorrosive atmosphere. In a pulp and paper mill, the life expectancy of the coating, about 4 to 5 dry mils thick, is closer to 1 year, with failure starting in 6 months or less in severe areas.

With normal maintenance, the zinc rich primer system with two coats of epoxy offers about 10 dry mils thickness. It can be expected to be in good shape after 5 years. The primer should offer galvanic protection for 10 years and in some cases, up to 20 years.

Total cost/sq ft of the older system, based on *1969* prices, is about $0.39/sq ft. Based on *1971* prices, total cost of the zinc rich system is approximately $0.44/sq ft.

Specifications for protective coatings must be clearly written with no room for doubt, especially where zinc rich primers and "exotic" top coats are to be applied. The exact generic type of primer, the minimum surface preparation, and the minimum dry mill thickness should be specified. Minimum standards should be established and adequate inspection maintained.

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CLARENCE A. DAHLKE, JR. is a staff engineer with the Rust Engineering Co., Birmingham, Ala. A graduate of the Indiana Institute of Technology, Dahlke has a BS in chemical engineering. He is a member of the NACE and TAPPI.

CORROSION/72

RECEIVED
[illegible]
FOR [illegible]

I 405-8(26) 363
7214

Salem, Oregon
November 8, 1971

Mr. L. I. Lindas
Chief Counsel

R. M. Wade and Company
agreement

MISC. CONTRACTS and
AGREEMENTS No. 4366

On July 27, 1971, we sent to you for further handling three copies of an agreement with R. M. Wade and Company for acquisition and possession of certain property in Multnomah County.

In checking our records, we find that we do not have a fully executed copy of this agreement. We do have a xerox copy but it is not signed by R. M. Wade and Company.

Floyd Query, Secretary

fkn

Form E-206—5M

STATE COPY 6-5

APPROVED EFFECTIVE DATE 4-12-71
Contingent upon [illegible] of project agreement if additional [illegible] are required
BY
TITLE Dist. Engineer
DATE 12-16-71
FEDERAL HIGHWAY ADMINISTRATION

OREGON STATE HIGHWAY DEPARTMENT

Order for Extra Work

TO BE PERFORMED ON FORCE ACCOUNT BASIS

Project Name West Fremont Interchange
Date ~~November 2~~ 1971
Highway Stadium Freeway
Contract No. 7214
County Multnomah
Prefix 626-1011
Contractor Andersen-Hannan
F. A. Project No. I-405-8(20)303
Address 1626 N.W. 16th, Portland, Oregon 97209
Order No. 14

The following work is hereby classified as "Extra Work", to be performed and paid for in accordance with the terms of contract.

Description of work to be done: Repair damage to inorganic zinc primer on steel girders which has been caused by rusting of the top girder flange. This includes removal of loose rust stain from the primed surface and cleaning and repriming of the flange edge where paint failure has been caused by rusting of the top flange.

1. Maximum equipment rate allowable as per AGC agreement.
2. Percentage allowed contractor is in accordance with executed contract for project.

Location by station numbers:

Throughout project

12-15-71

NOTED
A. E. JOHNSON

NOTED
TOM [illegible]

STATE H[illegible]

Estimate of quantities and cost:

1. Labor	$ 7,800.00
2. Materials	$ 2,800.00
3. Equipment	$ 6,850.00
Total	$17,450.00

Explanation: (Explain here the conditions which cause this work to be classed as "extra work")
The specifications do not allow the steel girder top flange to be painted. The resulting rusting of this flange which caused the damage to be repaired under this order was beyond the control of the contractor. Work has been started.

INSTRUCTIONS: A single order should not cover more than one class of work or more than one extra work job.

Submit five copies of the order to Salem. After approval of the order by the assistant state highway engineer, the Salem office will send one copy to the contractor, one to the division engineer and one to the resident engineer.

Project authorization	$20,868,472.90
Present estimate of project cost, including $17,450.00 for work under this order	$20,338,933.12
Expected under-run ~~over-run~~ amount	$ 529,539.78
Expected under-run ~~over-run~~ per cent	2.54 %

Space to right of this line is for use of Salem Office

Submitted by: J. D. Howard
Resident Engineer

Approval Recommended:
Construction Engineer or Bridge Engineer

Approval Recommended: Edward [illegible]
Assistant Division Engineer

Approved: R. D. [illegible]
Deputy State Highway Engineer
Assistant State Highway Engineer or

I-405-8(20) W. Fremont Interch. Section 1970
303 Stadium Frwy. in Portland (Grad., pav.
#7214 struct., sign. & illum.) Folder #4

C&A 3678
3828
4366

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE
Portland, Oregon 97213
October 27, 1971

NOTED
A. E. JOHNSON

To: Memo To The Files

SUBJECT: West Fremont Interchange
Contract No. 7214
East Fremont Interchange
Contract No.'s 7310 & 7311
Use of Carbozinc 11

Discussed with Mr. A. E. Johnson on October 26, the use of Carbozinc 11 vs. Enjay's Rust Ban 193 for zinc Primer repair work on the subject projects. The facts of the question are as follows:

1. Enjay's Rust Ban 193 has been officially approved for use on both projects.
2. The painting subcontractors have requested (orally on the west side and in writing on the east side) that they be allowed to substitute Carbozinc 11 for Rust Ban 193. At the moment these requests have been granted and the painters have been using Carbozinc 11 for some time.
3. During painting meetings with Canron, we have been told that their painting consultant, CanTest, has said that Rust Ban 193 is preferable to Carbozinc 11 for our use of buildup of thin areas.
4. We have written to both prime contractors asking them to clarify the situation and if they want to use Carbozinc 11 to make a formal written request to do so.
5. Our laboratory (Jim Chidsey) told me that either paint was suitable for the use intended, although he felt that Rust Ban 193 would have a slight edge due to its superior adhesion quality.
6. I had previously been told by Mr. Johnson that our paint consultant, Hal Harlan, had no opinion regarding the relative merits of the two paints.
7. As mentioned above, we have been using Carbozinc 11 for some time and have found no particular problems with it.

Mr. Johnson told me that through a discussion with H. A. Anderson, he had been informed that they have a letter from Canron stating that if the switch is made away from Enjay's paint, then Canron feels that they are clear of any responsibility with regard to the paint problem. For this reason, the Contractors, at least Anderson-Hannan, will not write and make a formal request to use Carbozinc 11.

Mr. Johnson told me that in view of the facts listed above that he can see no reason to go back to Rust Ban 193 and he told me to proceed with the use of Carbozinc 11 without any written request from the Contractors.

R. L. Schroeder
Metropolitan Engineer

Edward L. Harat
Assistant Metropolitan Engineer

ELH:rb
cc: A. E. Johnson
Ivan Merchant
John Howard
Robert Shotwell
John Jenkins

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FORM [illegible]-30 (REV 10-69)

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
October 27, 1971

SUBJECT: West Fremont Interchange
Contract No. 7214
Zinc Paint on "SW" Unit 2

To: Memo To The Files

My letter to Tom Edwards dated September 1, 1971 requested clarification of his letters to the East and West Approach Contractors which listed beams which were unsatisfactory on account of zinc film thickness. My letter was answered by a phone call from A. E. Johnson to the effect that only beams on the "Edwards list" were to have additional zinc buildup. If beams were not listed, they were to have rusty areas repaired and then painted with vinyl, regardless of the zinc thickness. These instructions were documented in my September 10, memo.

During the above-mentioned phone call, I asked Mr. Johnson about zinc repairs to "SW" Unit 2 girders. These are not on the "Edwards list" because at the time the paint thickness measurements were taken, they were not accessible, and the report from which this list was made carried that notation. I pointed out to Mr. Johnson that the units on each side of SW-2 needed repair and were on the list and we expected that SW-2 would be in the same condition. He told me that if these girders were not on the list then the only repair work done would be on rusty areas and the zinc would be topcoated, regardless of thickness.

The purpose of this memo is to document the fact, for John Howard's benefit, that he raised the question of repair work on SW Unit 2 and was given the instructions outlined above.

R. L. Schroeder
Metropolitan Engineer

By:

Edward L. Hardt

Edward L. Hardt
Assistant Metropolitan Engineer

ELH:pb

cc: A. E. Johnson
Ivan Merchant
John Howard
Robert Shotwell

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7214

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
October 26, 1971

NOTED

To: Memo To The Files

SUBJECT: West Fremont Interchange
Contract No. 7214
Replacement of Curbs and Sidewalks

On October 1, 1971 I phoned Wayne Oberding, Highway Coordinator, City of Portland, and requested that he set up an on-the-site meeting with representatives of the City of Portland Traffic Bureau and City Engineer's office at the West Fremont Interchange in order to determine a plan for replacement of broken or non-existing curbs and sidewalks on the project. Since at the moment we do not have a final plan for the use of the area under the west approach to the Fremont Bridge, it is this office's thought that we should do the least amount of permanent curb and sidewalk work under the current contract that will adequately take care of foot traffic and vehicular traffic in the area. In order to come up with such a plan, it was felt that the above-mentioned representatives of Portland should be consulted. Until this coordination has been done, we are reluctant to do any curb and sidewalk work in the area which may later have to be removed.

To date, I have had no response to the request for this meeting and I have phone Mr. Oberding at least once a week in the last two weeks reminding him of our concern. Until this matter is resolved, we cannot direct our Contractor as to final cleanup of the area, including the curb and sidewalk work and have already gotten complaints from him in this regard.

R. L. Schroeder
Metropolitan Engineer

By:

Edward L. Hardt

Edward L. Hardt
Assistant Metropolitan Engineer

ELH:pb
cc: A. E. Johnson
Ivan Merchant
John Howard
Wayne Oberding, City

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OCT 27 1971
OFFICE OF
STATE HIGHWAY ENGINEER

SP*52675-734

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FORM 2-30 (REV. 10-60)
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7214

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
October 8, 1971

NOTED
A. E. JOHNSON

To: Memo To The Files

SUBJECT: West Fremont Interchange
Contract No. 7214
East Fremont Interchange
Contract No.'s 7310 & 7311
Zinc Paint Repair Work

A meeting was held on October 7, at Mr. Shotwell's office to discuss the current practices with regard to inorganic zinc repair work on the East Fremont project. Present were the following:

Dick Davies	Canron
Don Fields	"
Jack Gray	Drake-Willamette
Leonard Grover	Enjay Chemical Company
Al Rear	OSHD
Ed Hardt	"
Bob Shotwell	"
John Howard	"
Chuck Lobaugh	"
George Bennett	"

This meeting was requested by Mr. Davies to talk about the current practices for repair of inorganic zinc, particularly on the insides of the girders. This work has been completed for some time on the West project and will be completed on the East project in about another week.

Mr. Davies feels, and he says he has recommendations from CanTest and Enjay Chemical Company confirming this, that the amount of power wire brushing being performed for cleanup of rusty areas is excessive to the point where the zinc is merely being polished. He feels this can be detrimental to the adherence of the inorganic zinc, presently Carbozinc 11, which is being applied to these rusty areas. He makes a distinction in the degree of rusting, referring to what he calls "pinhole rusting" as less severe than rusting of an entire area. He feels that pinhole rusting can be cleaned up with a hand wire brush. He also feels that in the case of a rusty splice plate containing cadmium plated bolts that the cleaning method should be hand wire brushing of the rusty areas, thus preserving the cadmium plating rather than sand blasting the plate and bolts as is generally being done on the project. This latter procedure has been used since it is evident that it is the least expensive way to clean up the rusty splice plate problem.

Mr. Davies was told by the writer that our repair procedure is as follows:

1. "Loose" rust staining is removed by whatever method is most economical.

2. Rusty areas are marked by the State's inspector and cleaned by power wire brushing until the rust is no longer evident.

It was pointed out to Mr. Davies that the power wire cleaning criterea was established by Mr. Lowery of Canron on May 4, during a demonstration of cleaning procedures on the West Fremont Interchange. This repair procedure was approved by the Highway Division as documented in a memo written by Mr. A. E. Johnson dated May 5, 1971. At this time, no distinction was made as to the degree of rusting. With respect to cleaning of rusty splice plates, discussion by the group convinced Mr. Davies that the present procedure was the most practical and least expensive method of taking care of the problem.

Mr. Davies was told by the writer that if he would submit his proposed cleaning criterea backed up by recommendations from CanTest and Enjay that the State would consider them. It appears that the basic problem involved in Mr. Davies proposal is finding a practical way to distinguish between the various degrees of rusting and consequently degrees of cleaning necessary.

Mr. Davies brought up the fact that the inorganic zinc paint presently being used for repair work is Carbozinc 11 which does not conform to the recommendation of Gordon Smith of CanTest who feels that Enjay's Rust Ban 193 is the preferable paint to use due to its superior adhesion characteristics. This presents a very confusing situation, since on the one hand the painting subcontractors on both projects have requested the use of Carbozinc 11 while on the other hand the material supplier for the projects, Canron, tell us that this paint is not the best for the purpose intended. By copy of this memo, I am asking both prime contractors, Anderson-Hannan and Drake-Willamette, to come forth with a written request for the use of Carbozinc 11 if they feel that it is the best inorganic zinc available for this repair work.

R. L. Schroeder
Metropolitan Engineer

By: Edward L Hardt
Edward L. Hardt
Assistant Metropolitan Engineer

ELH:pb
cc: A. E. Johnson
Ivan Merchant
John Howard
R. E. Shotwell
Anderson-Hannan
Drake-Willamette
Canron

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OCT 11 1971
OFFICE OF
STATE HIGHWAY ENGINEER

7214

NOTED
A. E. JOHNSON

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
September 24, 1971

SUBJECT: West Fremont Interchange
Contract No. 7214
East Fremont Interchange
Contract No.'s 7310 & 7311
Investigation of Inorganic
Zinc Paint

To: John Jenkins
Engineer of Materials
State Highway Building
Salem

Rusting of structural steel primed with Enjay's Rust Ban 193 inorganic zinc on the subject projects has been the subject of much controversy in the past several months. We are also concerned about girders which are not rusting but whose paint is thinner then that specified. The Contractors claim that the paint was applied properly in Vancouver, B. C. but has subsequently deteriorated. The State has laboratory tested (Harlan) this paint and has projected a possible maximum paint film loss of ½ mil in a 6 month to 1 year period.

In order to explore this paint deterioration question deeper, we feel it prudent to make winter exposure tests in Portland of Rust Ban 193. We would like to duplicate the seasonal exposure of the girders which have shown the worst rusting problem. We would propose to set out a number of samples of this paint and accurately measure the paint thickness to determine thickness loss as related to time and weather.

With regard to the paint application of these samples, it is our thought that original film thickness and rate of application of acid cure should both be variables. Consequently, we would propose to have samples with various film thickness, say 1, 2 and 3 mils, each with various amounts of acid cure applied. There may also be other variables which you would want to introduce into this program, such as directing a flow of water onto the sample to simulate the effect of the top flange of the girders shedding rain water on the girder webs. Hal Harlan may also have some ideas on this testing program.

We understand that your office has been directed to make field tests of Rust Ban 193. The above are our thoughts on such a study. We will be happy to work with you in any way in order to implement same.

R. L. Schroeder
Metropolitan Engineer
By: Edward L. Hardt
Edward L. Hardt
Assistant Metropolitan Engineer

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SEP 27 1971
OFFICE OF
STATE HIGHWAY ENGINEER

cc: A. E. Johnson
Ivan Merchant
John Howard
Robert Shotwell

SEP [illegible] 1971
FOR FILE

File

West Fremont Interchange
Contract 7214

SUMMARY OF STRUCTURAL STEEL MEMBERS THAT HAVE BEEN RED-TAGGED BY PITTSBURGH TESTING LABORATORY BECAUSE OF PAINT DEFICIENCIES

1. Report No. 4 dated 9/30/70, Canron Ltd.

Component No.	Remarks
Girder 253	Rust-Ban 195 (meant 193) post cure used - not approved by O.S.H.D.
" 264	"
" 265	"
Floor Beams D-1	No final inspection made on paint millage (Floor beams removed from assembly before Pittsburgh Testing Laboratory could make final check)
" " D-2	"
" " D-25	"
" " D-26	"
" " D-49	"
" " D-50	"

2. Report No. 5, dated 10/22/70, Canron Ltd.

A = Anchor pattern profile not to specs
B = Rust-Ban 193 on splice plates not approved
C = Soft coating with 191A liquid over coating
D = 6851 accelerator over Rust-Ban 191
E = Soft coating at various isolated spots
F = Soft coating- isolated spots of no adhesion to steel

Component No.	Remarks
Girder 235	B, C (Interior)
" 236	A, B, C (Interior)
" 237	A, B, C (Interior & Exterior)
" 238	A, B
" 239	A, B, C (Exterior)
" 240	A, B, C (Interior)
" 241	A, B, D
" 242	A, B
" 243	A, B; Rust-Ban 193 not adhering to girder bottom flange end
" 244	A
" 245	A, B, C, D; Grit in coating
" 246	A, B, C, D
" 247	A, C, D
" 248	A, C, D

Ring Section A35	D, F
" " A36	C, D
" " A119	C (Exterior), D
" " A37	C (Exterior & Interior), D
" " A38	D, E (Exterior & Interior)
" " A39	D (Exterior)
" " A67	A; Rust Ban 193 with 6851 on all surfaces
" " A68	C, D (Exterior), F
" " A69	C, D (Exterior), F
Floor Beams C-1 to C-39	B; Rust-Ban 193 on beams not approved
Stringers C-40 to C-80	" " " stringers not approved
Channels C-81 to C-84	" " " channels not approved

3. Report No. 8, dated 11/19/70, Canron Ltd.

Component No.	Remarks
Floor Beams F26, F27, F28, F29, F31, F32, F33, F34	Lack of profile; paint on moment plates not sticking, paint falling off edges of moment plates

FORM E-90 (REV 10-69)

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Portland, Oregon 97213
September 22, 1971

SUBJECT: West Fremont Interchange
Contract No. 7214
Visibility Over Bridge Rail

To: A. E. Johnson
Assistant State Highway Engineer
State Highway Building
Salem

Per your request attached you will find seven folders of color photographs taken from the deck of the West Fremont Interchange showing the visibility over the bridge railing from the eye of a driver or passenger of an automobile. The photographs in five of these folders show the view through the side windows of the car. The other two were taken at an oblique angle through the windshield.

If further information or data is required regarding question of visibility over the bridge rails, please advise.

R. L. Schroeder
Metropolitan Engineer

By:

RECEIVED
SEP 23 1971
OFFICE OF
STATE HIGHWAY ENGINEER

Edward L. Hardt
Assistant Metropolitan Engineer

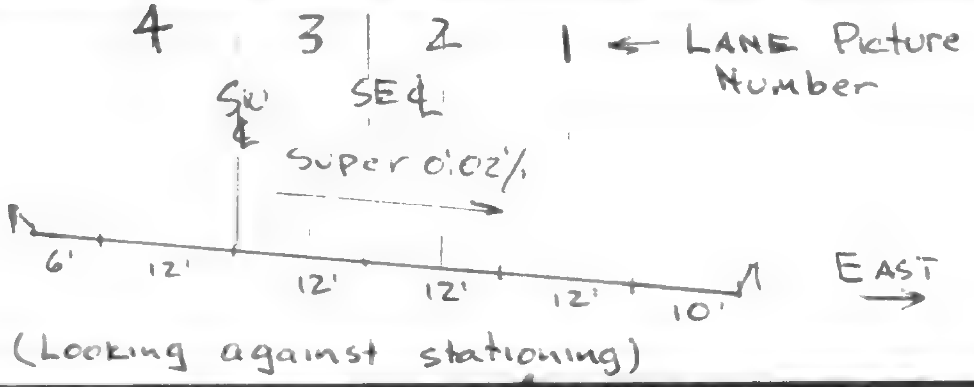
ELH:pb

Encs

cc: John Howard

NOTED
A. E. JOHNSON

SP*52475-734


4
3
2
1 ← LANE Picture Number
SW ℄
SE ℄
Super 0.02%
6'
12'
12'
12'
12'
10'
EAST
(Looking against stationing)

SE UNIT 5

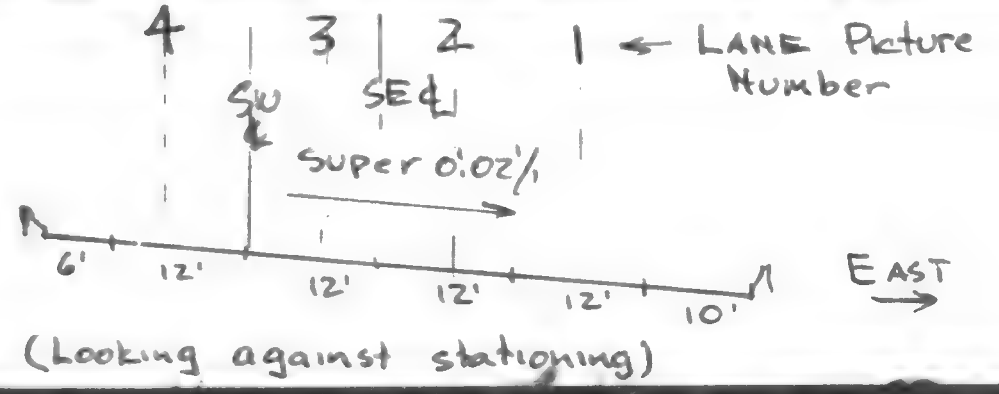
SPAN 5 Above MARSHALL St

Super = 0.02% to EAST

HEIGHT of Str = 40 ft.

7214
W Fremont
8-16-71
SE 386+80
JH

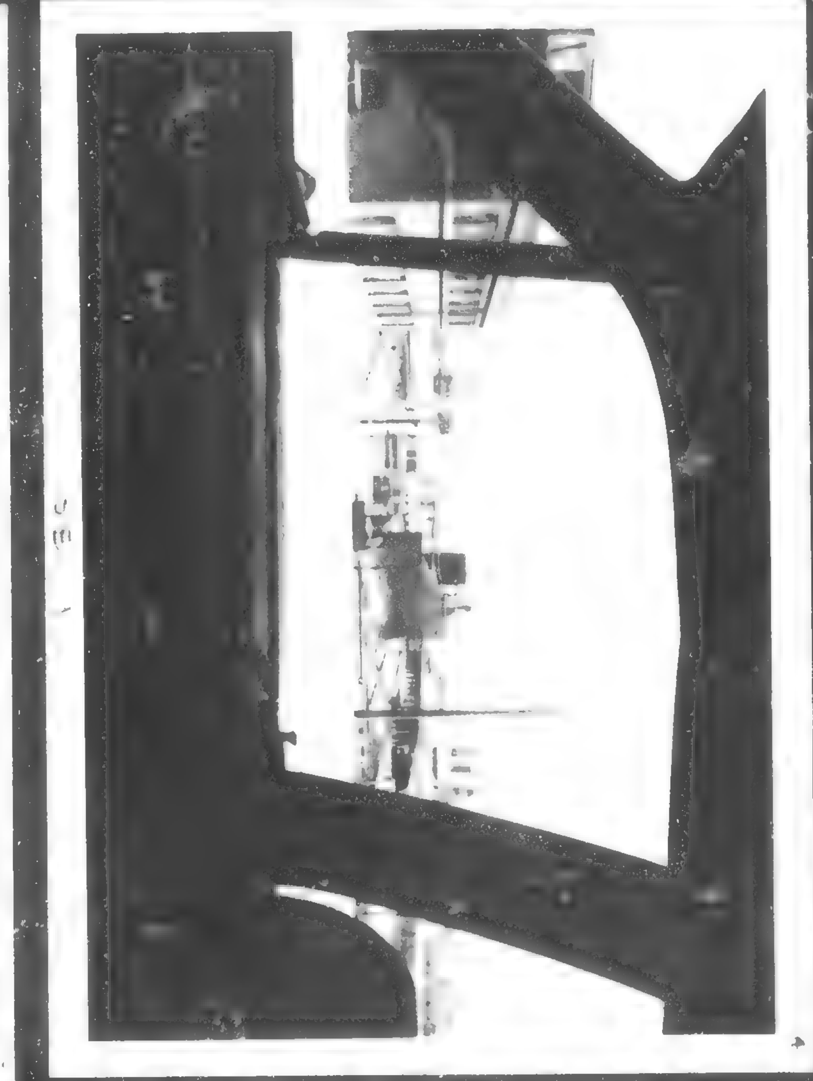
7214
W Fremont
8-16-71
SE 386+80
JH


4
3
2
1 ← LANE Picture Number
SW ℄
SE ℄
super 0.02%
6'
12'
12'
12'
12'
10'
EAST →
(Looking against stationing)

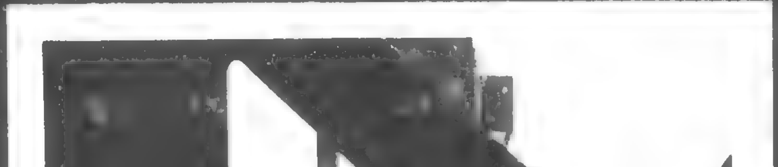
SE UNIT 5

SPAN 5 Above MARSHALL St
Super = 0.02% to EAST
HEIGHT of Str = 40 ft.

SE 2



SE 1



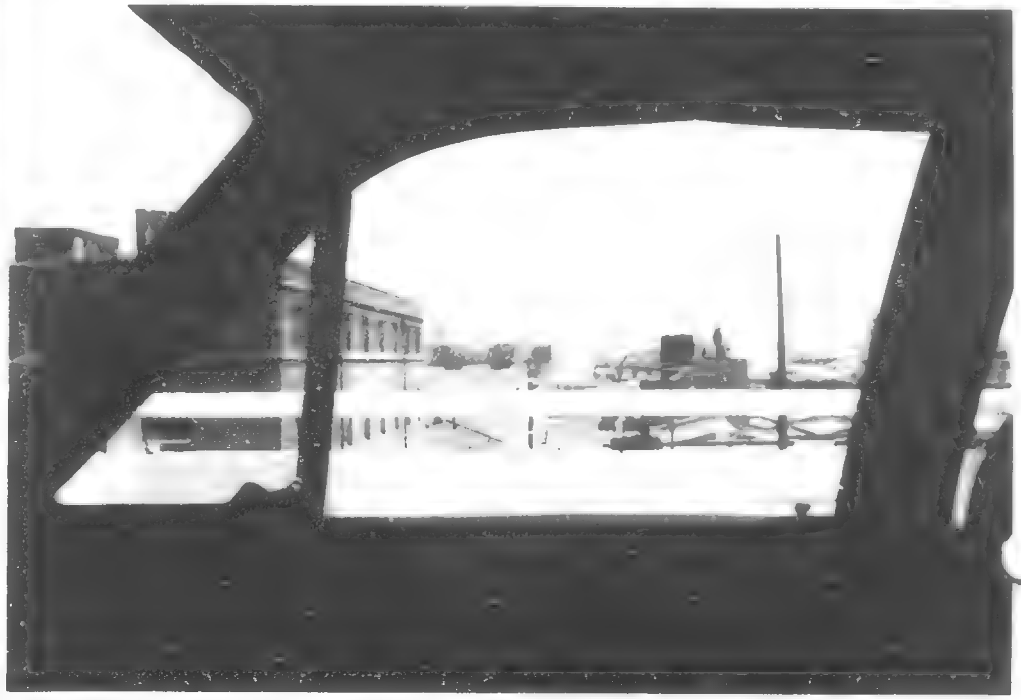
SE 2

SE 1

9

SE 1

10



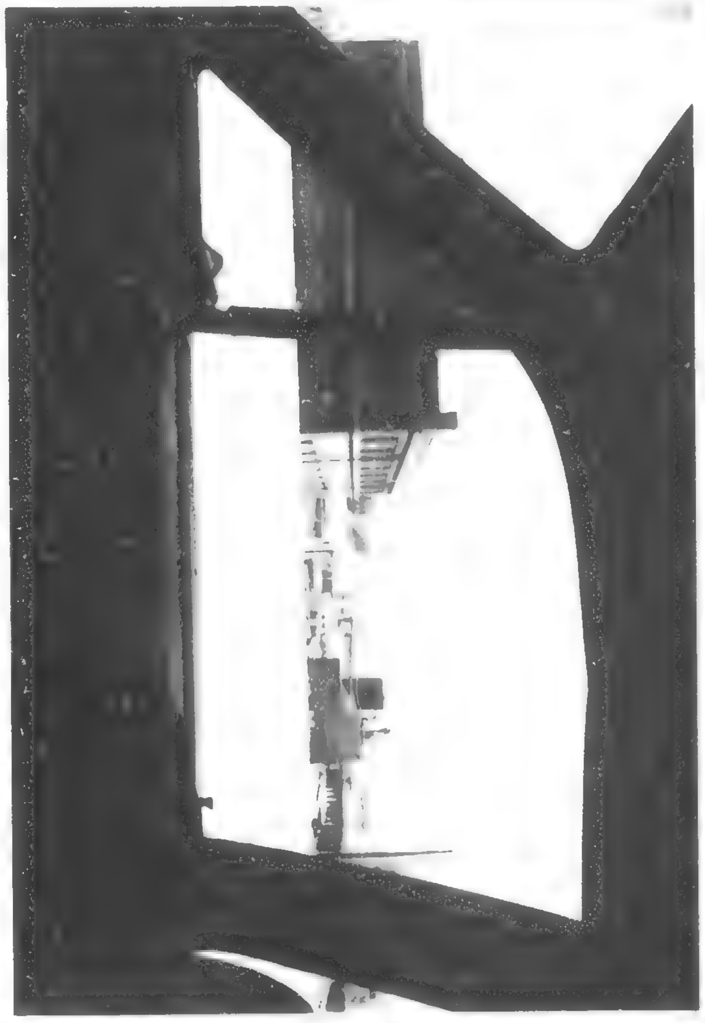
SE 1

11

SE 2

SW 4

SE 3



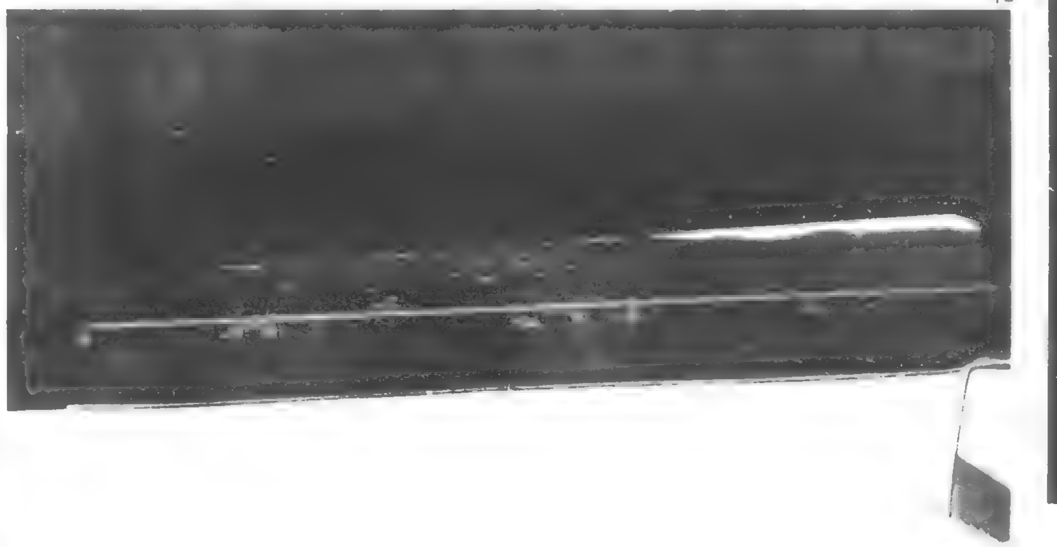
SW 4

SE 3

9

SE 1

15



SE 1

8

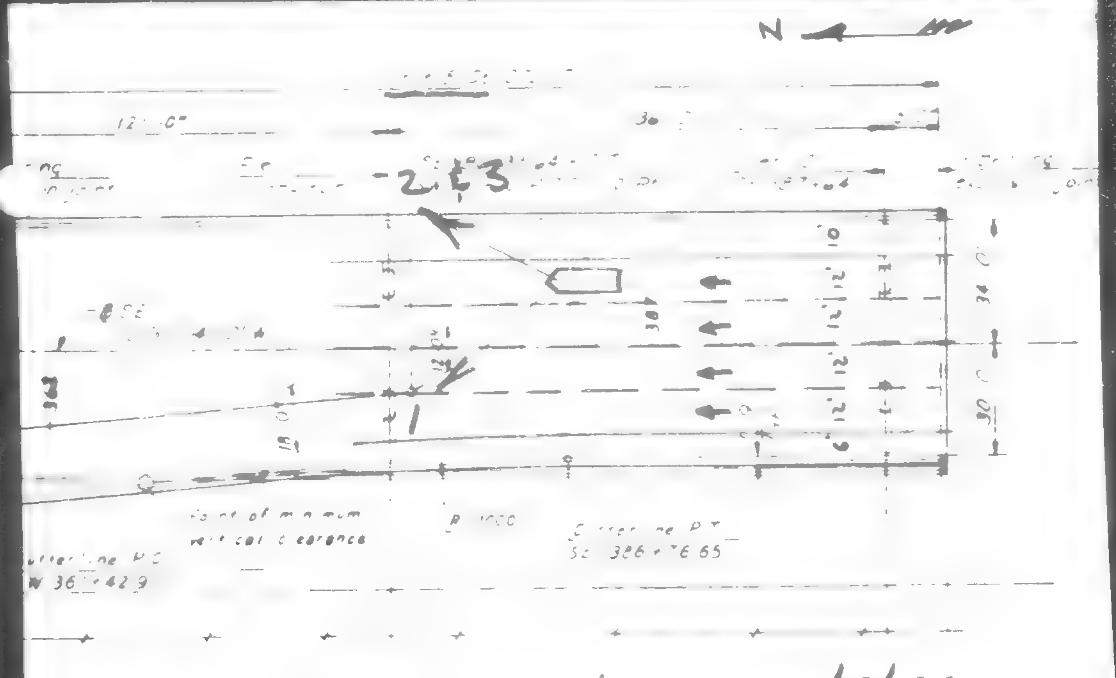
SW 4

14

SW 4

1

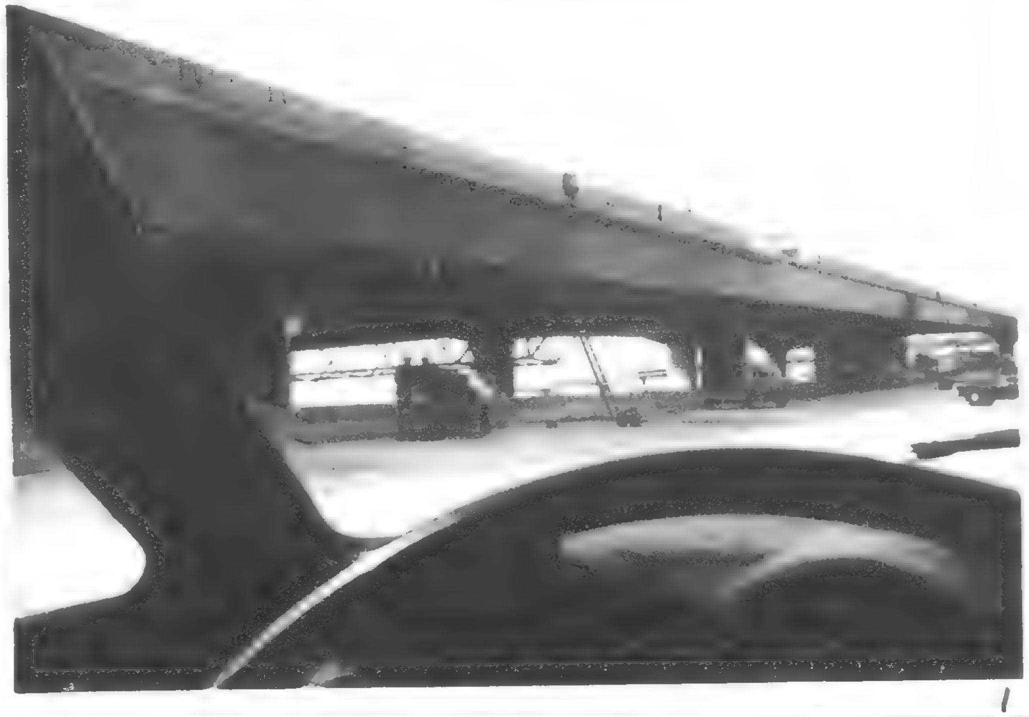
2



N
12'-0"
2 & 3
1
30
12'
12'
12'
12'
10
6
34'-0"
30'-0"
Point of minimum
vertical clearance
Centerline PT
Sta 386+76.65
W 36_+42.9

Pictures on this page taken
from the above position

3



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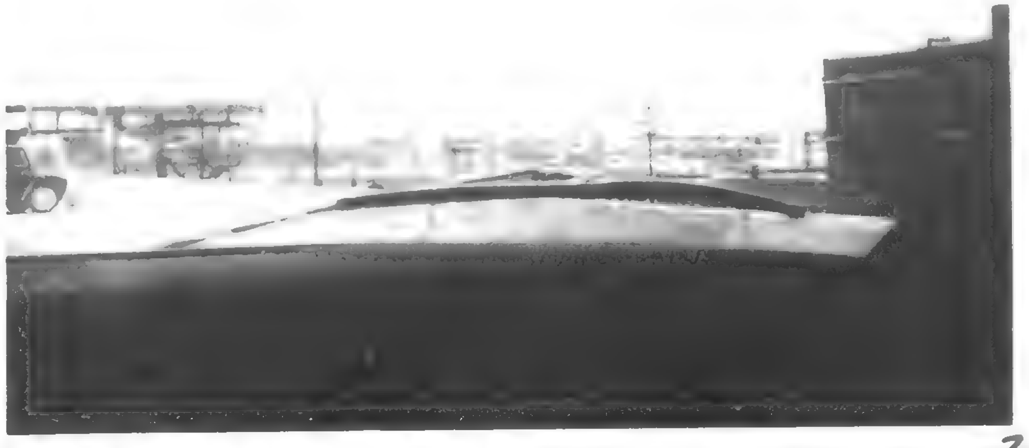
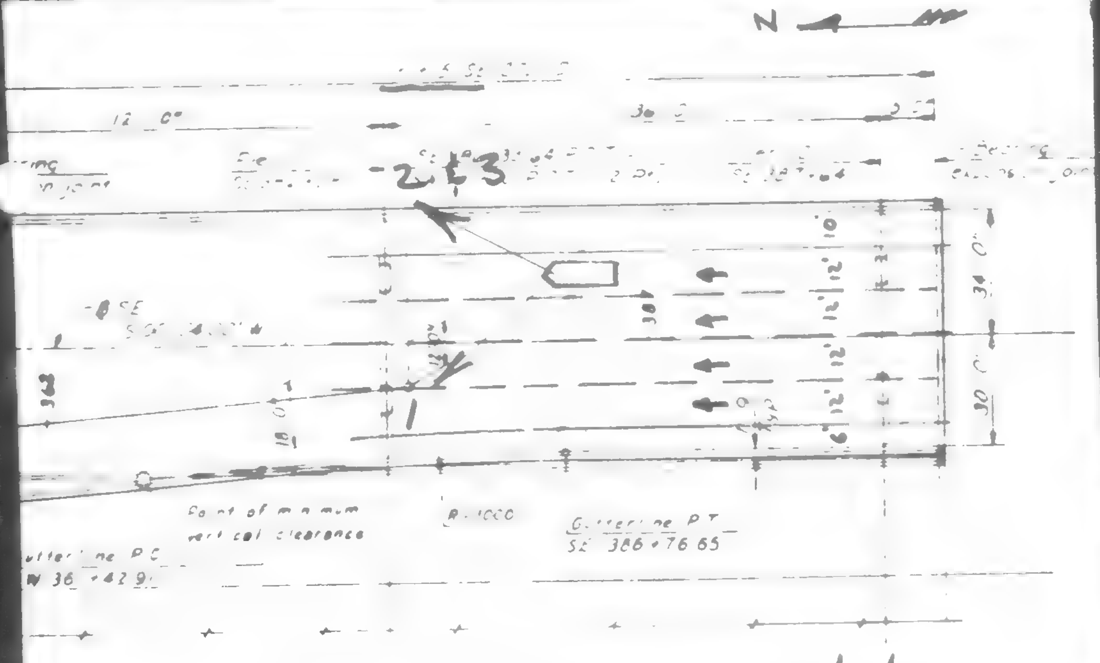
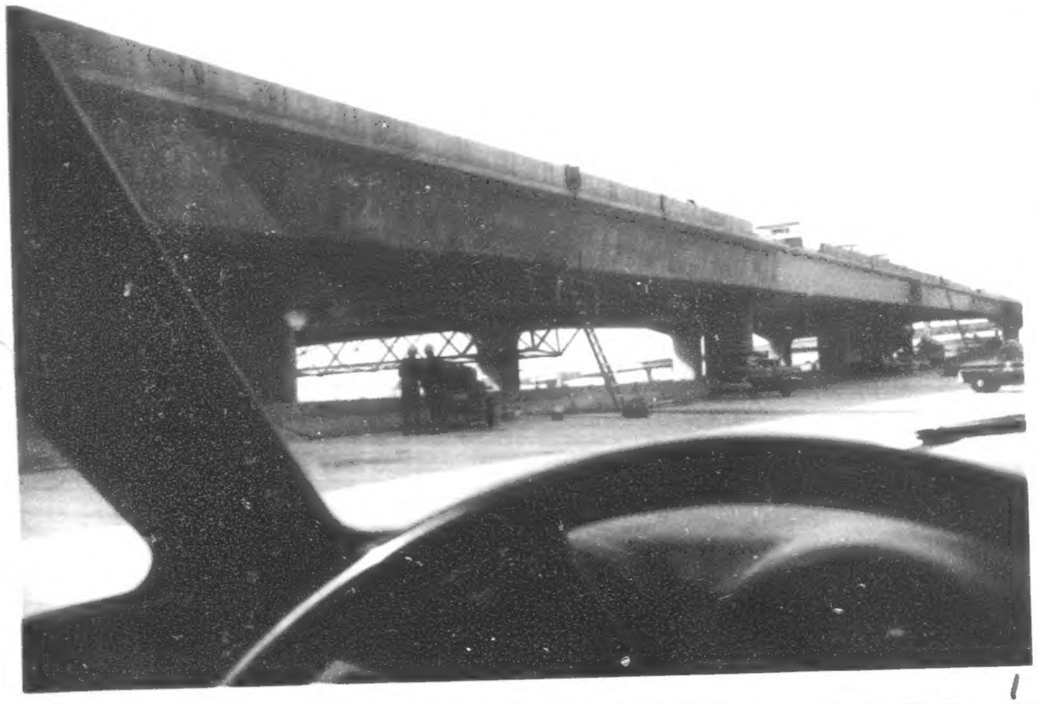


2

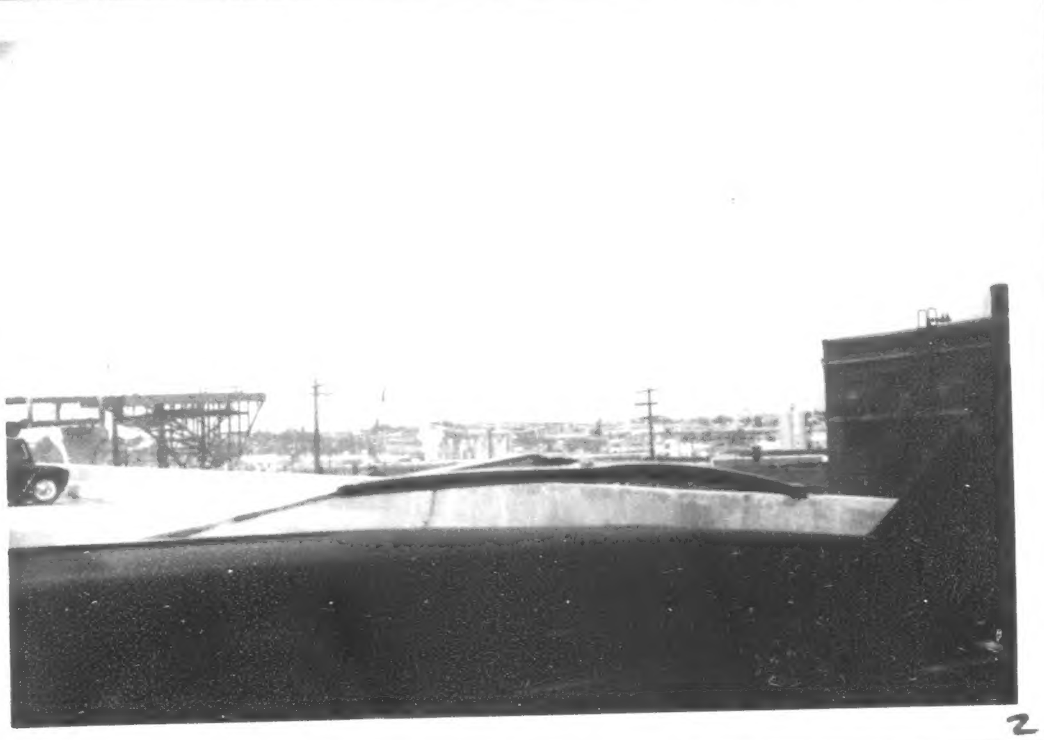

N
12 0"
2 & 3
1
30' 0"
34' 0"
6' 12' 12' 12' 12' 10'
Point of minimum vertical clearance
R=1000
Gutterline P.T.
SE 386+76.65
Gutterline P.C.
W 36 +42.91

Pictures on this page taken
from the above position

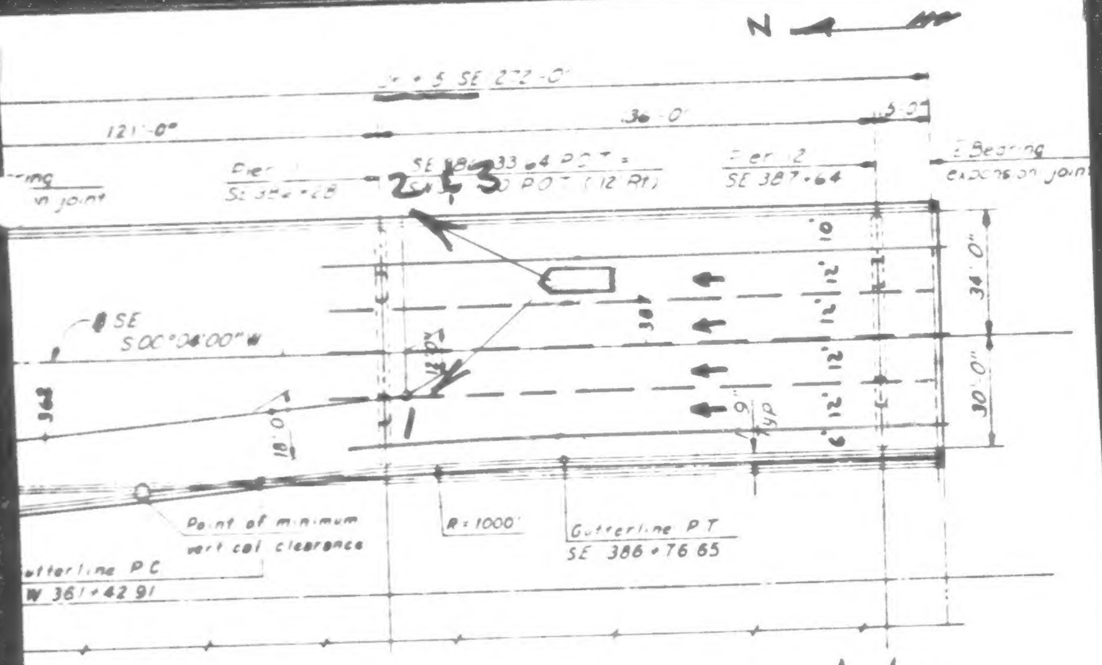
[redacted]



1

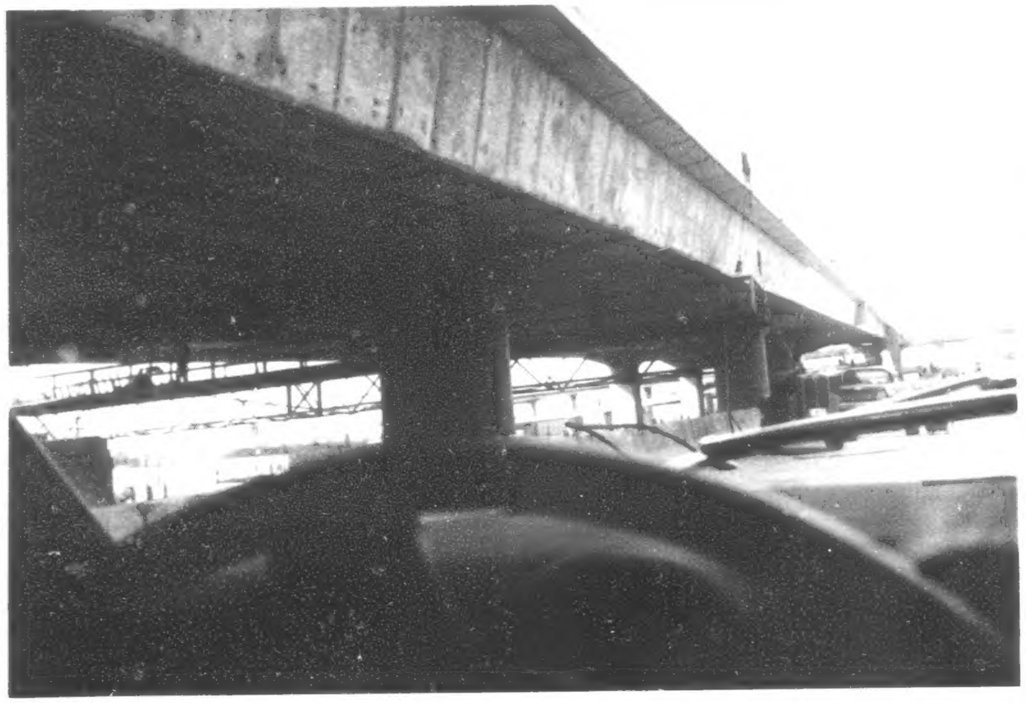


2

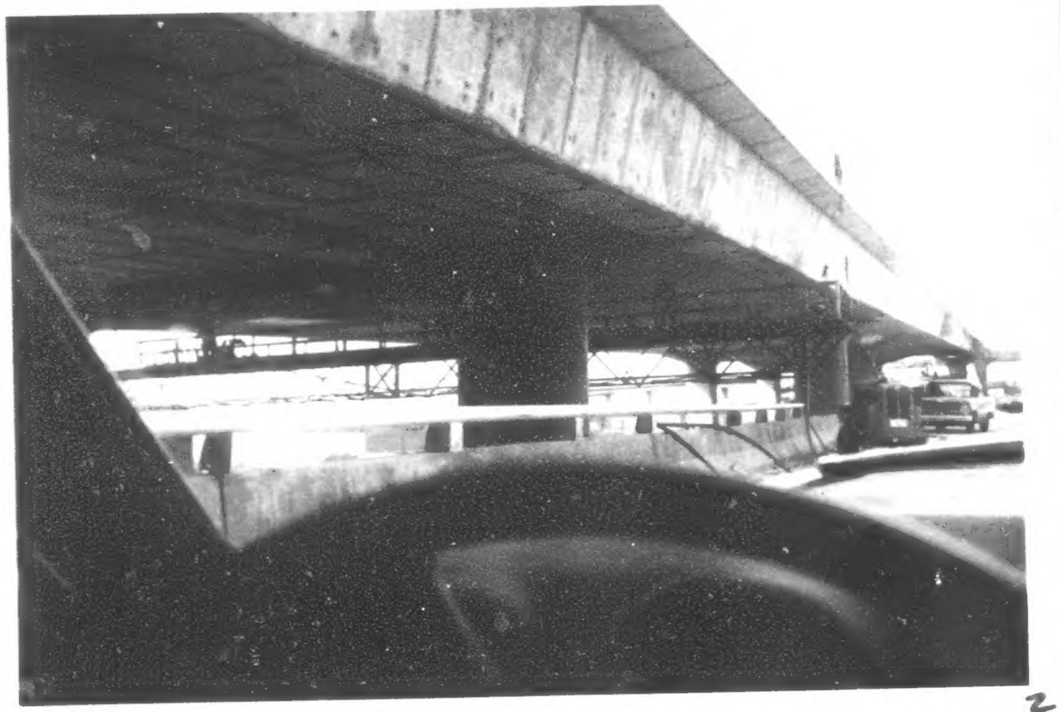

N
SE 272'-0"
121'-0"
36'-0"
5'-0"
ring
on joint
Pier 11
SE 386+28
SE 386+33.4 P.O.T. =
P.O.T. (12' Rt)
Pier 12
SE 387+64
Bearing
expansion joint
2 & 3
1
SE
S 00°04'00"W
368
18'-0"
12'-0"
387
9"
typ
6'
12'
12'
12'
12'
10'
34'-0"
30'-0"
Point of minimum
vertical clearance
R=1000'
Gutterline P.T.
SE 386+76.65
Gutterline P.C.
W 361+42.91

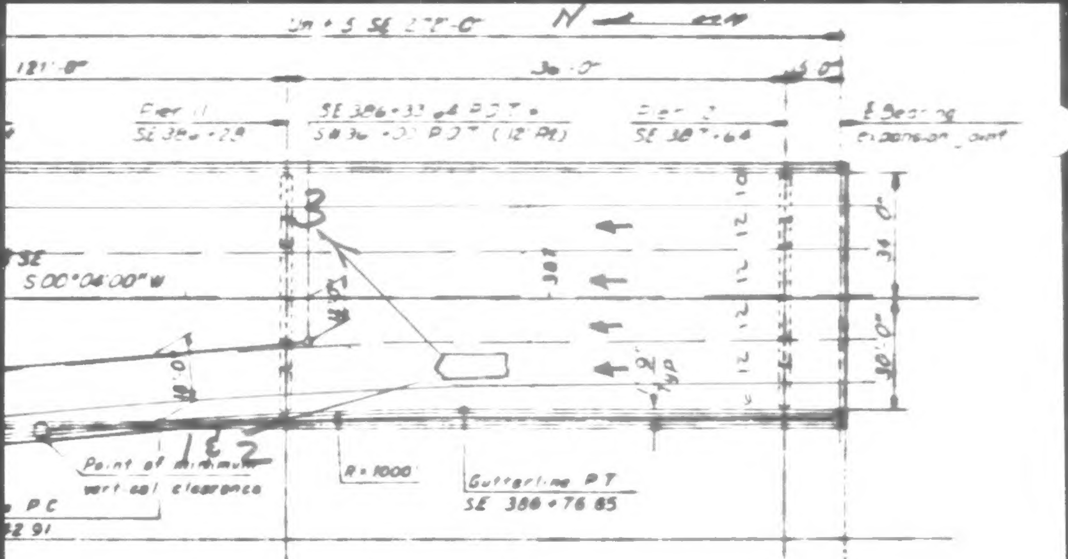
Pictures on this page taken
from the above position

applies to
all 3
photos
on this
page


1

3


2


N
181'-0"
36'-0"
Pier 11
SE 386+29
SE 386+33 ɡ P.O.T.
Pier 2
SE 387+64
℄ Bearing
expansion joint
SE
S 00°04'00" W
3
1 & 2
12
12
12
12
10
2' typ
30'-0"
34'-0"
Point of minimum
vertical clearance
PC
R=1000'
Gutterline PT
SE 386+76.85

Pictures on this page taken from
the above position

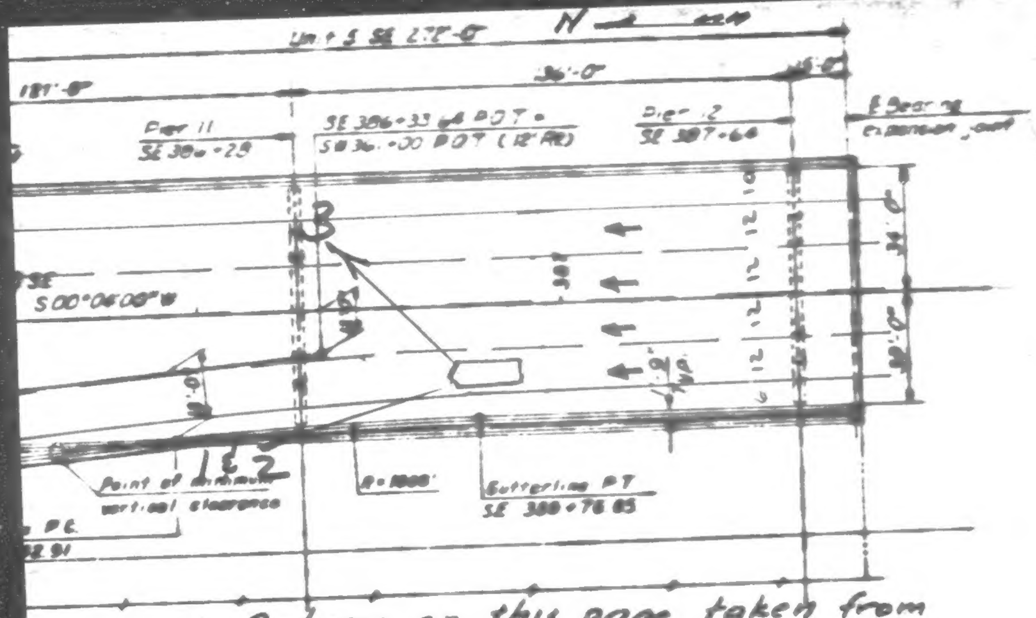
applies
to all
3 photos
on this
page

Negative No.

Remarks

3

2


Unit 5 SE 272'-0"
N
181'-8"
36'-0"
15'-0"
Pier 11
SE 38_+29
SE 386+33 POT =
S_36+00 POT (12' Rt)
Pier 12
SE 387+64
℄ Bearing
expansion joint
S00°04'00"W
3
1&2
Point of minimum
vertical clearance
R=1000'
Centerline PT
SE 388+76.85
PC
12 12 12 12 10
34'-0"
30'-0"

Pictures on this page taken from the above position

STATE OF OREGON

Microfilmed Public Record

(In accordance with the provisions of ORS 192.040 through 192.070)

Name of Agency: Oregon Department of Transportation

Title of Record Series: Construction Contracts

Arrangement of Records: By Contract Number

Index:

INDEXING: Begins with: Contract # 7185 folder #3 Ends with: Contract # 7214 folder #4

FLASH CARDS: Begin Each Contract

Remarks: #7185 folder #3 continues from reel 137
#7214 folder #4 continues on reel 139

Reel No. 138 Reduction Ration 21:1 Project No.

Camera: Name Bell & Howell Model File Master Film Recordak AHU MICROFILM 1460

CAMERA OPERATOR'S CERTIFICATE

I certify that I have on this 18th day of May, 1981 photographed the documents appearing on this roll of film, that they are true copies of documents, found in the record file described above, and that the integrity of the above described record file has been maintained on the film by microfilming each document in the exact order in which it was found in the file, with the exception, if any, of documents omitted because of technical difficulties and/or by error, as indicated on the film in the cross-reference notes or retake certificate.

I further certify that the microfilm on which these documents are recorded was procured as permanent film of the slow burning cellulose ester or polyester type known as safety photographic film, conforming to applicable standards of the American National Standards Institute; and that the processing conforms to the standards for permanent film; and that sample of film processed by this Service are periodically tested.

Signature Silvar Storm